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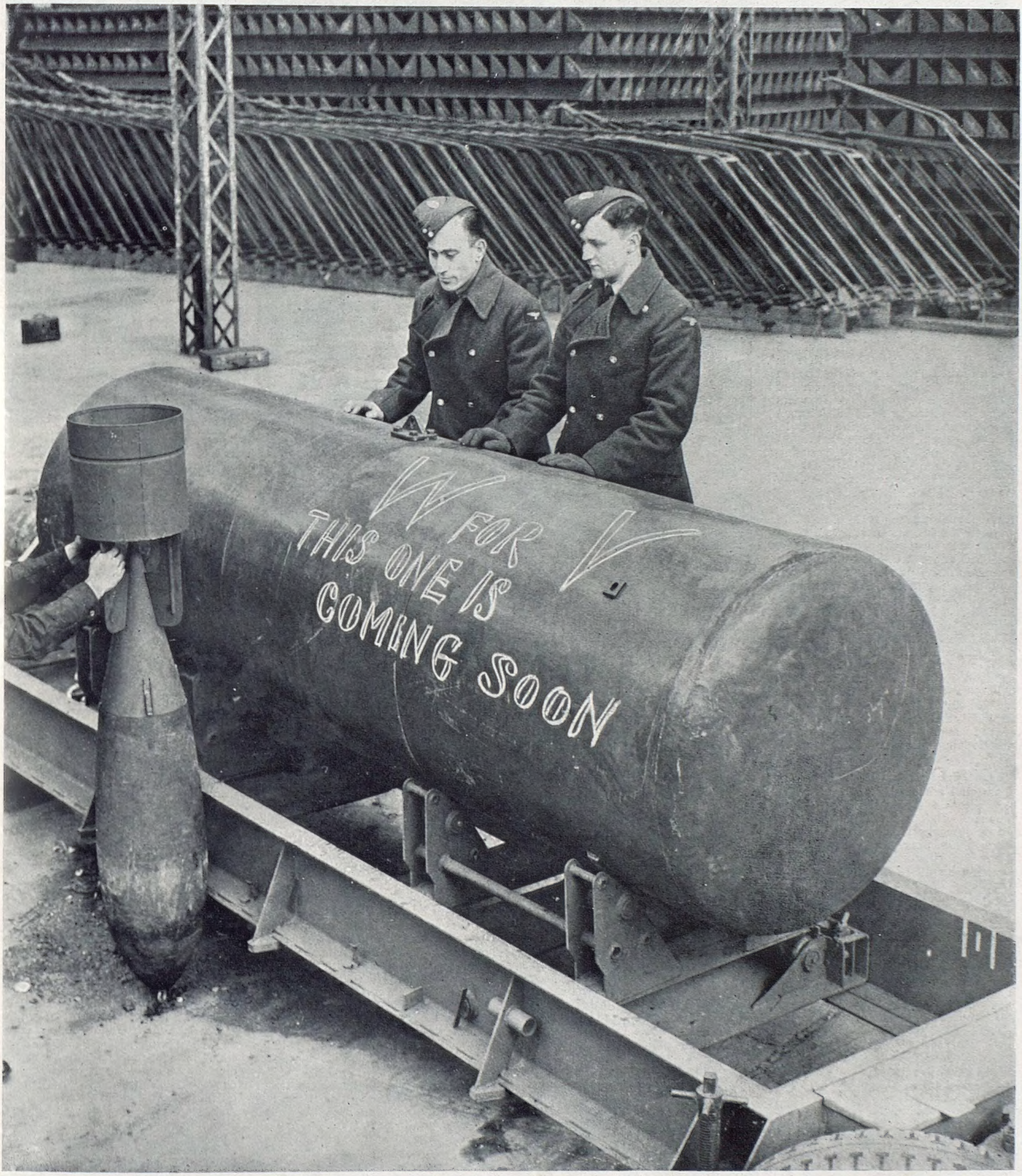
Drawing by J. Gilroy

My Goodness—where's
My GUINNESS?

Volume CLXXII No. 2251 The SPHERE, London, March 13, 1943

THE SPHERE
With which is incorporated "THE GRAPHIC"
The Empire's Illustrated Weekly



THE FIRST PHOTOGRAPH TO SHOW ONE OF THE HUGE MODIFIED 8,000-LB. BOMBS which British aircraft are now dropping in raids over Germany. The smaller bomb on the left is a 500-pounder

During the "Wings for Victory" procession through London last Monday, many people witnessing the parade had their first glimpse of the terrific bombs which the R.A.F. are now using in raids on Germany. For some months now these monsters have been devastating enemy territory—Cologne, Hamburg, Bremen, Berlin, and other centres — but hitherto pictures showing what they look like have not been available. The huge modified 8,000-pounder seen above is usually dropped by means of a parachute, so that its effect on the target is so much greater than if it were allowed to gather maximum momentum during its descent. A comparison with the smaller 500-pounder will give some idea of the sizes involved. Our big four-engined bombers are capable of carrying these monsters in their bomb bays

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A WAR NEWSLETTER—No. 184

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Second Front? Second Chance?

—The early thaw on the Russian front gave the Nazis a much-needed respite, and in the vital Donetz area, and even in the Kuban, they were able to organise something more serious in the way of counter-action. In those areas, bitter fighting was not always to their disadvantage, and the general advance of the Russians was certainly halted or slowed up, and in some sectors towns and strategic points were won back by the Nazis at very heavy cost. For several days the lull continued, and then Stalin announced that he had struck again with Timoshenko's armies in the Lake Ilmen area, and won back at last the important Nazi fortress south-east of the lake which stopped the way to Staraya Russa. Although this notable success was announced as a completed task, it looks as if the chances of the weather—which both combatants blame when it suits them to do so—is not to interrupt the impetus of Stalin's major plan and strategy. There is to be no interval; no winter and summer campaigns distinct and separated. The order Stalin recently gave his armies was to drive the invaders from Russian soil. (When that is accomplished it will be time enough to weigh the question of further advance or safeguarding of frontiers and organisation of national defence.) If the democracies are behind schedule, as perhaps we are, here is an inducement to redoubled energy. The enemy is still too strong to be defeated section by section of the vast front. Only by keeping him on the run and keeping him guessing and swopping his reserves from Leningrad south to Cairo and west to Tunisia and north-west again to Norway can the Nazi peril be scotched and killed. The urge which conquers many patriotic men to write and speechify about the importance of "instantly opening a second front in Europe" is quite as understandable (almost justifiable) as it is futile. The view seen through Stalin's spectacles puts a British patriot in a fever of apprehension. Long since our responsible leaders concerted their plans. The time-table is laid down. The Service chiefs are working to schedule, feverishly and competently. We have waited long. We can afford to wait a little longer, in faith and confidence.

Ding-Dong in Tunisia.—

I am glad I backed the right horse in my note on the set-back in Central Tunisia. Before those lines were in print, American and British forces were again in control of the vital Kasserine Pass and were pursuing a beaten enemy—Rommel's armour veterans—east and south of the town. Nothing could augur better than the speed with which the counter-stroke was delivered. It told us three important facts. There is power behind our lines. There is co-ordinated organisation directing the three or four armies of the Allies concerned. There is among the rank and file the character and the ability and will swiftly to learn by experience and to profit by mistakes. It will be ding-dong again, thrust and parry, success and set-back; but the more you look at the Nazi corridor, thumb-nail, or what-not, the more you regard it rather as a last ditch than a jumping-board. True, their communications are short, if precarious. True, they have handy internal lines, if vulnerable to air attack. The defences of the Mareth may still be formidable; the Gabes Gap is certainly a nut. But the Allies and the salt, estranging sea complete a practically continuous ring which gains in strength every day, and there can be but one end. It may be true that nothing is so precious to the Allied cause as time; it may be true that in Africa to-day we are engaging very few enemy divisions. But time is not standing still while the corridor grows smaller, and the dead men in the Mediterranean number many divisions by now.

CAPTAIN THE RT. HON. EDWARD ALGERNON FITZROY, Speaker of the House of Commons since 1928, and M.P. for Daventry, who has just died. The death of Captain FitzRoy came on March 3, after a short illness. He was born in July 1869, the second son of Lord Southampton. On leaving Eton and Sandhurst, he was gazetted to the 1st Life Guards, retiring from the active list on his marriage two years later. In 1900, Captain FitzRoy entered Parliament for South Northamptonshire, and—with the exception of the years between 1906 and 1910—represented that constituency up till his death. He is the first Speaker to die in office since Mr. Speaker Cornwall in 1789

"By Creek and Inlet."

—It is natural that we should view the progress of the war with impatience. But at least we are most of us to-day optimists of the type revealed in Clough's oft-quoted poem. "In yon smoke concealed" there is much which we neither comprehend nor know the truth of; much of doubt and speculation. Our own bombing policy is long-term, and we are told to regard it so, with faith. Many visible proofs, and our own experience of a "Blitz," serve to assure us that it must be having a jolting effect on Nazi war output and organisation, if not on morale. The U-boat problem is still a terribly anxious one. The Russian offensive has exceeded the farthest bounds of exuberant imagination expressed but three months back, but the Germans still put up stiff resistance, and even gain ground, in sectors which they regard as vital to the salvage of the wreck of their eastern plans and armies. In Tunisia, the crescent fortress which remains to the Axis in Africa looks small and precarious on the map, but the Nazis show their claws, sometimes with effect, and the progress of the First and Eighth Armies seems sometimes painfully slow. And in the Pacific zone the Japanese have a stranglehold on the world's richest war resources, and lie like a shadow over Australia and India and China and the life-lines with America. The sun climbs slow, how slowly! The tide, it may be, is making, by creek and inlet, silently, imperceptibly. But *is* the sun's rising so slow? *Is* the tide making so silently and so little appreciably? That blotting out of the last Japanese convoy—the victory of Lake Ilmen—the fall of Rzhev—the battering of Germany—the failure of the Nazi assaults in Tunisia—the news out of Germany—these manifestations are in their cumulative effect something bigger than silent stirrings in tiny creeks. The tide is making fast.

Dear Friends, Once More.

—*Once more into the breach, dear friends, once more!* The voice is the voice of Hitler (or a gramophone record; for the Führer, as we know, is very, very dead). The "dear friends" hear it with cooling enthusiasm. The satellites of the Balkans see their pawns swept off the big board into the limbo of Pomeranian grenadiers, just when they need all the pawns they can marshal for the still more enthralling game of snatch-and-grab on the lesser Balkan board. The Duce's pawns have been roughly handled and are badly needed at home. And the truculent note in that voice from the eastern dug-out was surely ill-conceived. Persuasion succeeded when the prospects were good and promises of pickings, however vague and bewilderingly duplicated, justified the gamble. But hitherto there have been more kickings than pickings, and such chestnuts as have been pulled out of the fires of Stalingrad and Rostov and Kharkov have been uneatable and have afforded no divide among satellites or partners. Holding down Europe grows more difficult every day. *The moon is down* and the man in the moon is on his back and waning. Nor is it only a question of guns and man-power. The legions of the oppressed, who still fight only with passive resistance, have seen at last the tremendous psychological power of silent hatred, silent contempt, cold obedience. De Gaulle believes the hour is striking for Fighting France to intensify resistance. We believe he has his hand on the pulse of Fighting France. It is odd to realise that for six weeks or more the names of Pétain and Laval have not been news even in a sober, monthly review, let alone a daily sensation-maker. If it is true of France, it is doubly true of Norway, Belgium, Holland. And in the Balkans there is reasonable evidence available that more than one dictator is searching for the key of his back door. Threat or flattery, bribe or blackmail, I doubt if the new satellite army will be swiftly recruited.

Premature.

—One word of warning to wanton talkers among Allied Statesmen. We most of us now ruefully accept it that the democracy-sections of the Allied front must for ever dilute actions with words, and rely on declarations and wordy formulæ as weapons as urgent and vital as bombs and shells. We accept it, albeit with wonder and with sorrow. We accept it that the Democracies must plan for peace before the war is even nearly won, and in planning must spill often quarrelsome, heady words. Therefore, we may talk and quarrel over social security and freedom from want and fear, and new ideals in industry, finance, education, religion and what-not. But when it comes to declarations on the new boundaries of European countries, and the re-drawing of the map of Europe, this is occupying ground which even archangels fear to tread. What's to come before those boundaries can be re-drawn? First, a very bitter and still incalculable life-and-death struggle has to be resolved and an enemy of still fearful resource and power brought under. And when that at last is done, "the troops will stand fast on the positions occupied at zero hour on Armistice Day" (as they did in November 1918). Where will those positions be? Not one living man can say. Or what may be the condition of Rumania, or Hungary, or how much of Yugoslavia, Czechoslovakia or Poland will be free from their enemies. Poland, for example, or Finland, for example, have since 1939 been occupied by invaders from both contending sides in this world war, and may be again. Indeed, since this war began, I have been dimly aware of a fearful bogy grinning at the far end, the bogy which has always scared Peace from the haunts of men—the frontiers of European states. That, at least, is a clear and certain lesson which History teaches. The drawing of boundaries is the seed of war, the fool's-cap of the victors and the hope of those who dream of vengeance in defeat.

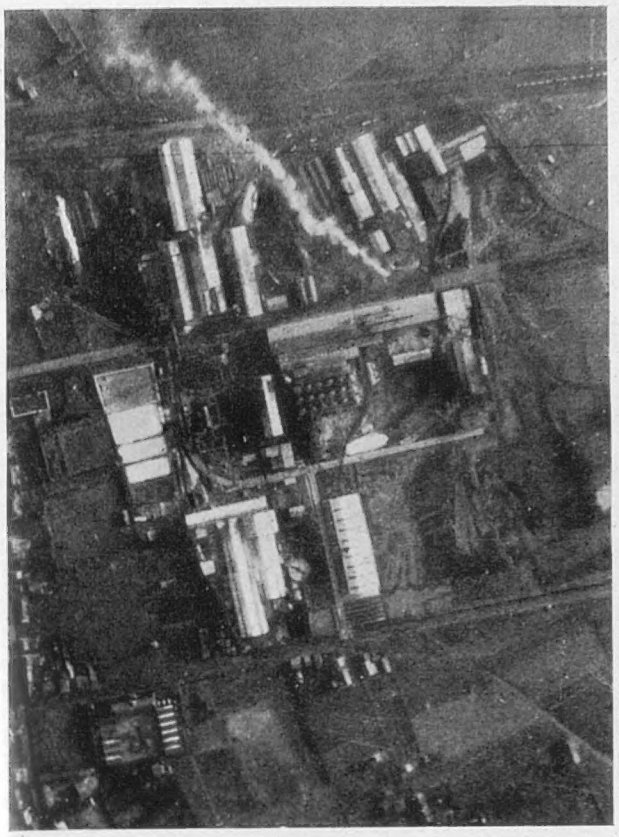
A Note on the Speaker.

—It is perhaps not too late for a note on the Speaker of the House of Commons, albeit Captain FitzRoy's successor has long since become "ancient history." His office is very ancient, and he is "the first Commoner in the Kingdom," not only by custom, but by law. His symbol of power is, of course, the Mace. He is the "mouth" of the House, its Chairman, tutor and corrector, and indeed the very works of the clock. For if he breaks down, the pendulum can no longer swing. Though a member of the House, he neither votes (save on a tie) nor as a member speaks. The Speaker is so called because he is the only M.P. who does not speak—that would be our characteristic explanation to an inquiring foreigner—so British! The office goes back to 1398, when Sir T. Hungerford was first given the title. What is clear and rare about the office is that most Speakers proved themselves *before*, and not *during*, their reign. They are chosen for *character* by the jealous, all-seeing eyes of the House, in the trials and tests of debate, and that test is gruelling and thorough. A Speaker rarely fails. Trevor (1865) was an exception. In modern times, I should say Peel, Lowther, Whitley and FitzRoy stood out for strength of character, nobility of character, impartiality, tact and knowledge of Commons procedure and precedents, or some of these qualities pre-eminently revealed.

THE OLD STAGER

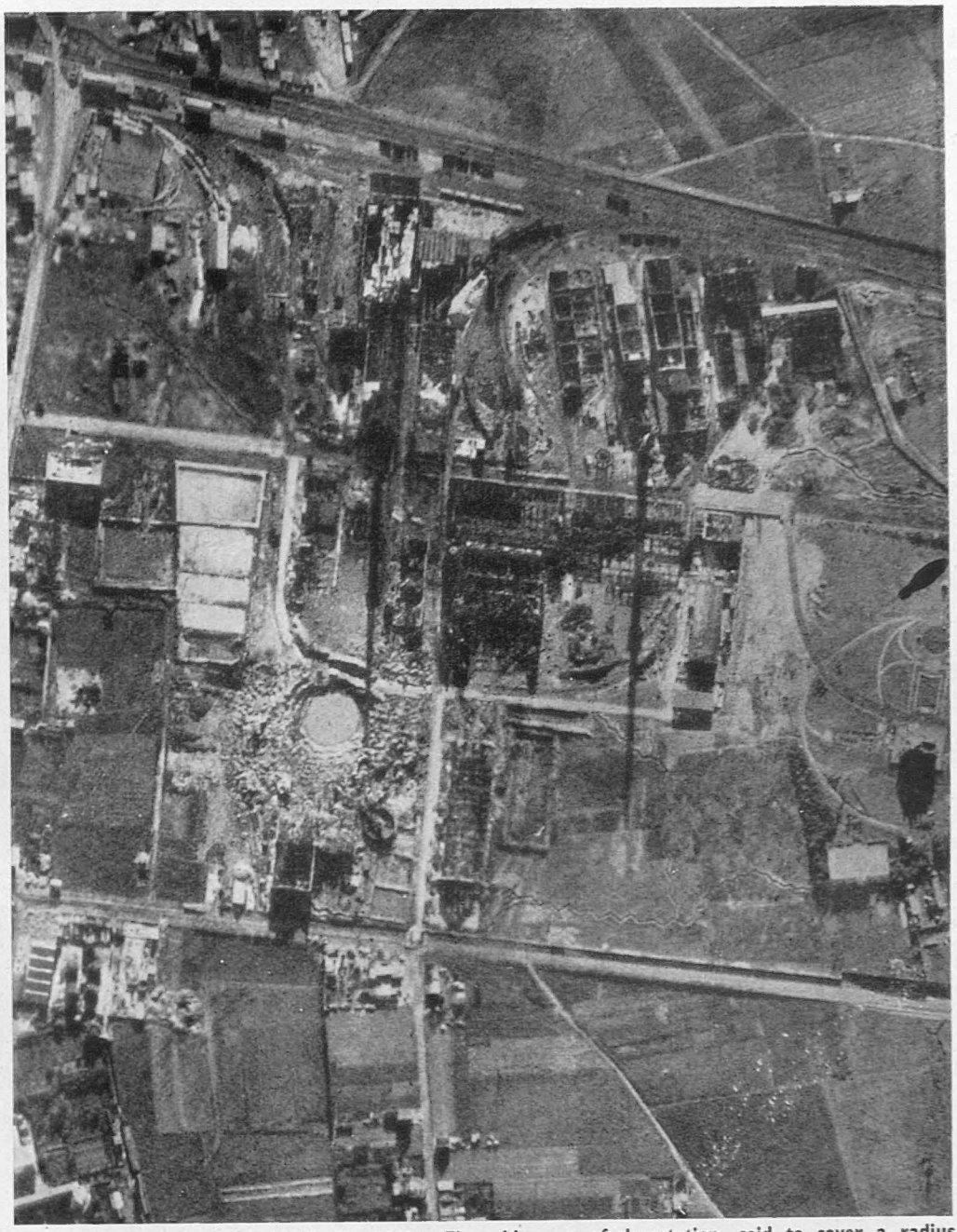
A VAST EXPLOSION in BELGIUM

Two Official R.A.F. Photographs just released

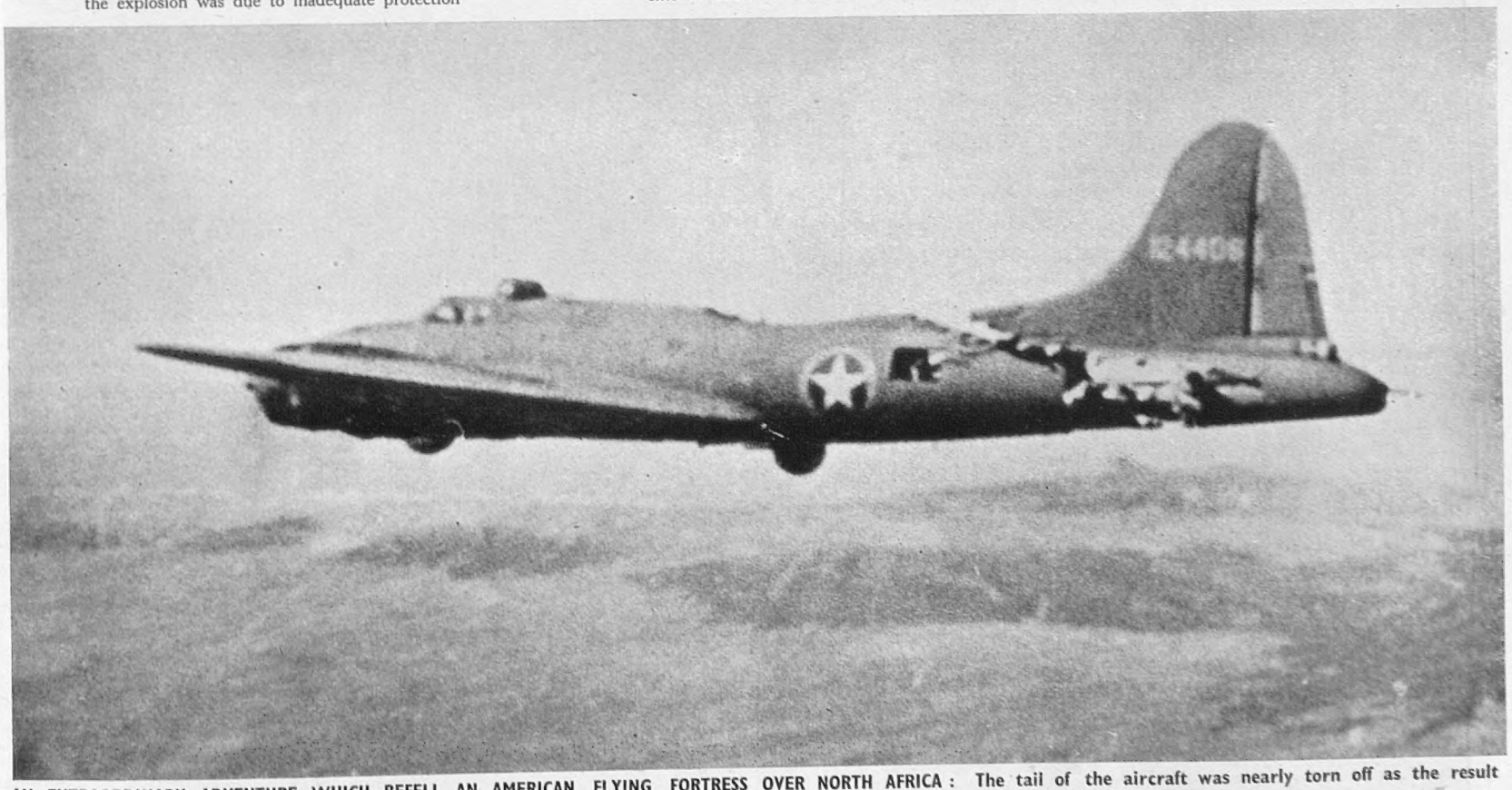


THE FACTORY BUILDINGS OF THE SOCIÉTÉ DES PRODUITS CHIMIQUES, an extensive plant at Tessenderloo, in Belgium, before the explosion

The two aerial photographs reproduced here were taken from an R.A.F. reconnaissance plane, and they show the factory buildings of the Société des Produits Chimiques at Tessenderloo, in Belgium, before and after a vast explosion there on April 29, 1942. This terrific disaster wrecked almost the entire village of Tessenderloo, in the Province of Limburg. So devastating was the explosion that 500 houses were destroyed and 2,000 people were rendered homeless. Altogether, there were 1,200 victims, of whom 200 were killed. The explosion occurred in the Chemical Factory, and for two days the Germans tried to prevent the news from leaking out of Belgium. Afterwards, they issued several statements, saying that the explosion was not due to sabotage nor to an attack by the R.A.F. This attitude of the Germans awakened public suspicion, and eventually the population put the blame on to the Nazis. The Germans declared that only fertilisers for Belgian agriculture were being made in the factory: Rumour contradicted this. It was said that the Germans were not only producing explosives at Tessenderloo, but that the explosion was due to inadequate protection

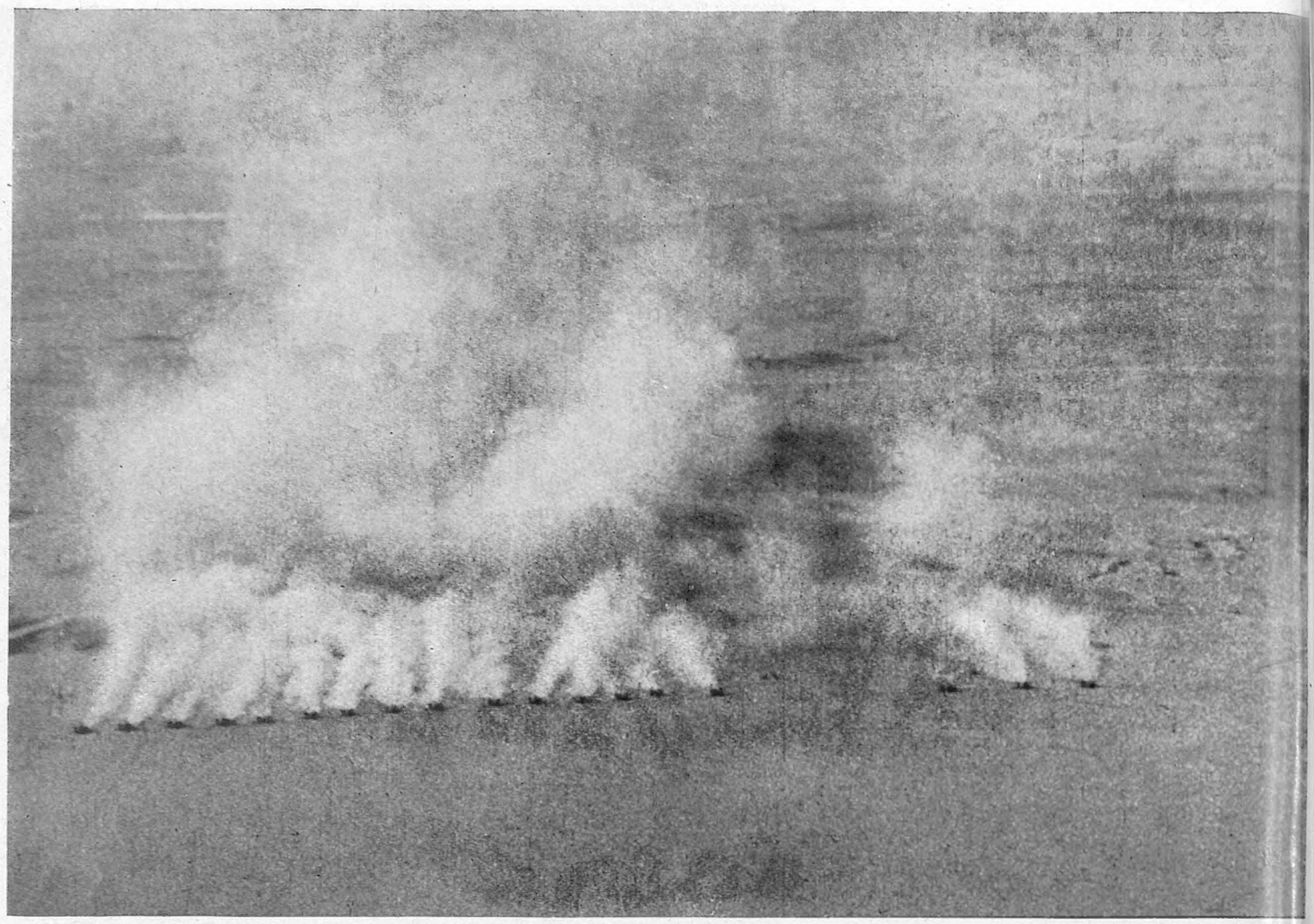


AFTER THE EXPLOSION ON APRIL 29, 1942: The wide area of devastation, said to cover a radius of several hundred yards. The Technical School of the Factory was partially destroyed and a number of houses wiped out or severely damaged. Soldiers were called in to help with the many killed and injured. The crater at the point of the explosion measures 175 ft. across: this is seen to the left of the centre in the above picture, partially filled with water



AN EXTRAORDINARY ADVENTURE WHICH BEFELL AN AMERICAN FLYING FORTRESS OVER NORTH AFRICA: The tail of the aircraft was nearly torn off as the result of a crash with a Nazi fighter after the pilot of the latter had been killed

A German fighter plane crashed into this giant American bomber whilst the latter was operating over the Nazi supply-lines in North Africa. The pilot of the German plane had been killed. The fuselage at the rear of the Fortress was cut in two, and one elevator was torn away. At the rear was a staff sergeant from Michigan, acting as rear gunner: he stuck to his guns in the tail until the last enemy attacker had gone past. He felt, he said, as though he had been riding on the end of a kite! Zigzagging through space in an endeavour to keep the Fortress flying, the pilot brought the crippled bomber to a safe landing at its home base an hour and a half later. When the doctor rushed on to the airfield to treat the injured members of the crew, he was informed that there were none! This picture was taken from another Fortress flying close by



THE TANKS RACE FORWARD TO THE ATTACK : A wonderful shot of a line of big German fighting vehicles charging in line abreast against the advancing Eighth Army in the desert. Each tank is throwing up a veritable storm of sand in its wake

"DESERT VICTORY"

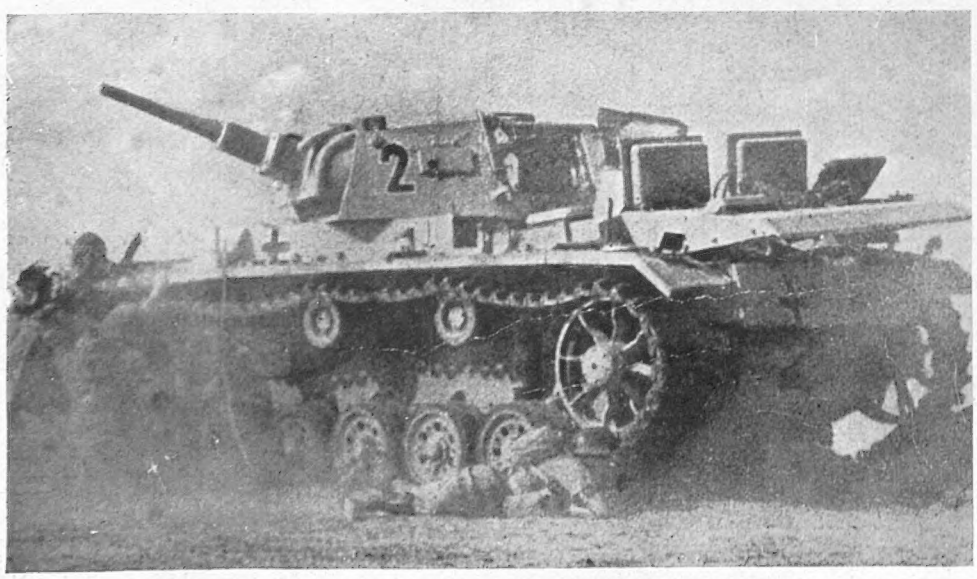
The Film which Shows, for the First Time, how a British Army Fought one of the Decisive Battles of History

Desert Victory is the name of the film, made by the Army Film Photographic Unit and the R.A.F. Film Unit, which shows how one of history's most decisive military victories was achieved. In other words, it is the story of the Eighth Army and how it won the Battle of Egypt and drove Rommel right back to the Tunisian border—or more than half-way to London!

This film is now being shown in London to entranced audiences in three big cinemas, and it will shortly be seen throughout the world. In its making, four cameramen were killed, five were wounded, and five in the front line or ahead of it were captured: so that the film is undoubtedly the real thing! Twenty-six photographers, under Major Macdonald, carrying special portable cameras, raced forward with the front line, sharing all the soldiers' hardships and dangers, to bring back pictures of all arms in action.

Desert Victory combines camera work, commentary and diagrams. The pictures reproduced on these pages are scenes from the film

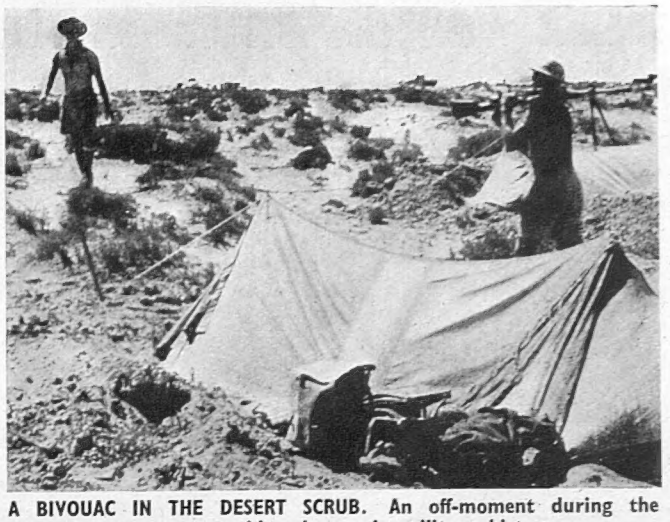
A CLOSE-UP TAKEN BY DARING BRITISH PHOTOGRAPHERS of a group of German heavy tanks waiting to go into action



THIS IS A GERMAN TANK—a Pz.K.W. III—damaged and immobilised. It is being used as cover by British soldiers in a desert action during the great advance

A BRITISH TANK COMMANDER on the look-out in the leading vehicle prior to an engagement with the Germans

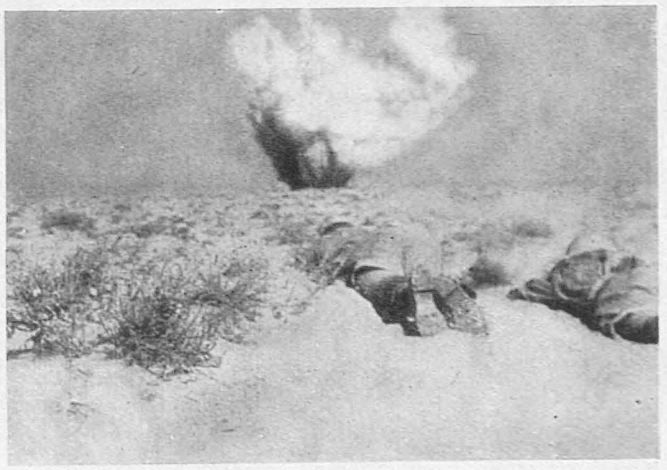
THE DEAD SOLDIERS IN THE FOREGROUND ARE GERMANS: Behind is an immobilised Pz.K.W. III German tank. The two soldiers advancing on the right are members of the Eighth Army



A BIVOUAC IN THE DESERT SCRUB. An off-moment during the most memorable advance in military history

JUST BEFORE THE HAZARDOUS DASH FORWARD. Machine-gunners and riflemen preparing to advance across the flat plain

AUSTRALIAN TROOPS ADVANCING UP A WADI. Light battle equipment is worn by these men, who played a great part in the Army's successive engagements



A DIVE-BOMBING ATTACK IN PROGRESS: Two soldiers lie flat while a Stuka attempts to bomb them

THE R.A.F. ALSO PARTICIPATE IN THE FILM. Here a member of a bomber crew is dashing to his plane, followed by his faithful mascot

A BRITISH TOMMY-GUNNER IN ACTION against the enemy lines, which have hastily been protected by a belt of barbed wire

SCENES from the ACTUAL BATTLE ZONE in NORTHERN and CENTRAL TUNISIA

CHURCHILL TANKS FOLLOW UP THE SUCCESS OF THE GUARDS ON THE SBIBA-SBEITLA FRONT. Following the Coldstream and Grenadier Guards, who forced the enemy into retreat, came Churchill tanks carrying men of a Field Company of Royal Engineers to lift the mines and pave the way for further Allied advances. The picture above shows how the sappers were carried up into the fighting line from positions newly-captured from the enemy

THE BRITISH ADVANCE ON THE THALA FRONT: Probing the road to Kasserine with bayonets, to locate the great number of land mines laid by the retreating enemy. The British armoured vehicles had to use cross-country methods while the Royal Engineers cleared the road

BRITISH ARTILLERY INFLICTS HEAVY PUNISHMENT on the retreating Axis columns in the Kasserine Pass. Twenty-five pounder shells landing among the German positions and tanks. When the bulk of the Axis forces which had thrust towards Tebessa and Thala were forced by British and American counter-attacks to retreat through the Kasserine Pass, the enemy found it a death-trap. Allied bombers rained down high-explosives, while the enemy reargüard was subjected to fierce onslaughts by both land and air forces. This important strategic position is now in Allied hands and not a single enemy unit is left in the plain in front of the Pass

SHERMAN TANKS MOVING UP IN THE ADVANCE TO KASSERINE, where German forces (including the 21st Panzer Division) were pushed back after a fierce two-day struggle for the possession of the town of Thala

THE FIRST ARMY ON THE SEDJENANE FRONT. A British position in country typical of this part of North Africa. The troops in this forward position are facing Djazzag, known locally as "Green Hill." All infantry positions are on the rear slopes of small hills such as this. Allied forces in this area keep up constant pressure, their heavy artillery inflicting considerable damage on the enemy

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ROMMEL'S ATTACK in TUNISIA

Held by the Guards in the Sbiba district, with the help of the guns and Churchill tanks—*Drawing by W. G. Whitaker*

The action of the Guards here illustrated took place in the district of Sbiba, a position on the south-eastern slopes of the Zeugitane Mountains, at the northern end of which lies Robaa. The guns are firing down a valley towards Sbeitla, from which point the Germans were intent on forcing their way forward to the Sbiba Gap, which the Guards were holding. If this very important position had been forced, Rommel's columns could have reached the main road to Tebessa. The enemy had gun positions on the flank of the hill mass seen in the middle distance, known as the Jebel Mrhila. On the left, the ground falls away where a stream-bed runs eastwards. The Zeugitane heights, which run left to right of the British position shown in the foreground, are in general covered with a bushy scrub on their lower slopes, breaking into bare rocks at their summits. The Guards held the position and the enemy did *not* break through.

The R.A.F. MASS EVERYTHING

Against the German thrust through the Kasserine Pass. The tactics of El Alamein repeated—*Drawing by Roland Davies*

In the Battle of the Kasserine Pass, where Rommel's too venturesome Panzers were thrust back, the R.A.F. reverted to what might almost be termed "El Alamein tactics." Air Chief-Marshal Sir Arthur Tedder, taking a first big hand in the North African operations, threw in everything, from Spitfires to heavy bombers, with the result that the all-round attack at last gave us air superiority over the battle area. Using all the aerodromes which remained to him, he sent out the heavy bombers, under close fighter cover, and used them to "soften" the *Luftwaffe*. The lines of communication, and fighting vehicles and personnel, were the main targets, but everything that moved, or showed itself, was a target, with the R.A.F. blazing away at everything they saw. The drawing above endeavours to portray the scene at the Pass itself, with the enemy columns passing through the actual gorge. All the aircraft depicted here actually figured in the battle at the time.

THE TASKS OF THE R.A.F. IN NORTH AFRICA: Fighter aircraft protecting a British supply ship creeping into Bougie harbour after nightfall. Bougie has been raided by enemy aircraft, which have bombed the harbour and shipping; it has been threatened by lurking enemy submarines. Owing to the presence of British fighter aircraft based on the shore, it still continues to function as a supply base for the First Army, however. In this drawing, Bougie Bluff is in the foreground (on right), and the Corniche Road is on the left. Town and harbour are protected by anti-aircraft installations.—*Drawing by Wm. McDowell*

The AIR BATTLE for TUNISIA

The "Luftwaffe" and the R.A.F. Locked in Conflict Above the Battle Zone and the Coastal Ports

Described by RONALD WALKER

THE loss of the air base at Gafsa and three more in the Sbeitla area in the recent withdrawal of Allied troops in Central Tunisia, showed once again that the Allied and Axis forces are jockeying for position to gain and retain air mastery over Tunisia. The side which obtains that air mastery will hold the key to victory.

There is no doubt who will have the upper hand when the present weather conditions and other difficulties have been overcome and the full force of the Allied air strength is brought into operation over Tunisia.

Right from the outset air power played a leading part in the Tunisian campaign. The Germans, all too conscious of the danger of real encirclement by unrestricted Allied occupation of the whole of the North African continent, rushed fighters, bombers and dive-bombers into Tunisia. We were never able to interfere seriously with the enemy during that initial period because of the weather conditions and the lack of air bases within fighter operational range of the main air bases at Tunis and Bizerta. Our first and nearest base was at Bone, which is about 150 miles from Tunis and only slightly less from Bizerta.

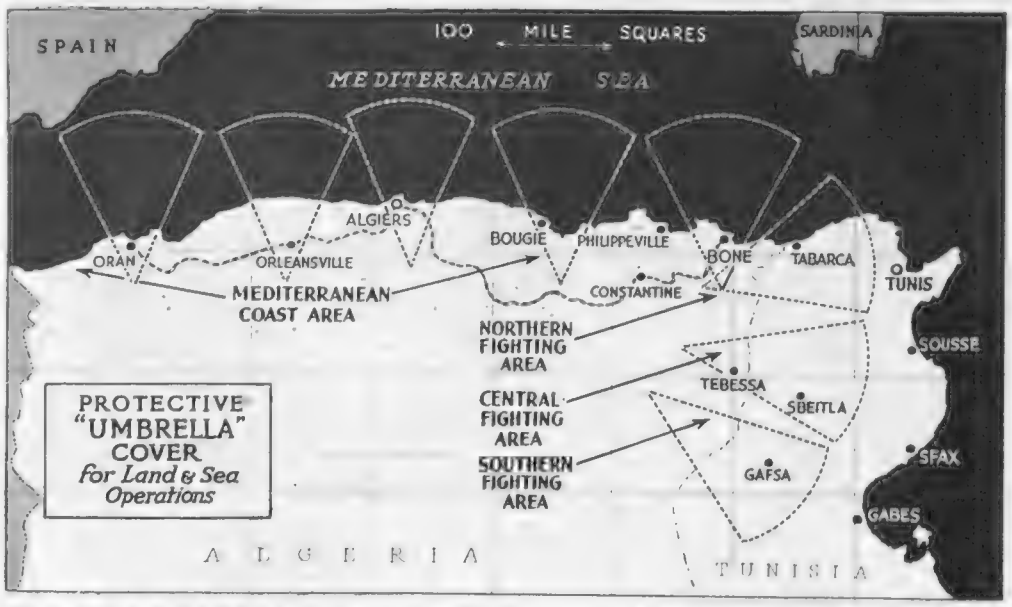
Because of these two factors, we missed our opportunity to get in smashing blows at the outset and to prevent the enemy from building up an air strength and supplies which now constitute a serious menace. By the end of January it had become clear that the Germans had moved into Tunisia at least one-fifth of their entire single-seat fighter strength, including their crack performers in the Messerschmitt Me.109F and the Me.109G high-performance, high-flying fighters, and the Focke-Wulf 190. In addition, they have the latest version of the veteran Junkers Ju.87 dive-bomber, the Junkers Ju.88 bomber-dive-bomber and the Messerschmitt Me.210 twin-engined fighter-bomber. These forces are reinforced by Italian and German squadrons stationed in South Italy and Sicily. From other fronts, notably the Russian, the Germans are known to have withdrawn many bombers, which have been hastily turned into transports to maintain the flow of supplies into Tunisia.

In addition to the task of fighting the war in Tunisia, the air forces of Britain and America have the responsibility of defending the ports, shipping and road and rail communications from Casablanca to Bone. The Germans have not been slow to raid the ports which were formerly supervised by the Axis Armistice Commission. The protective duties carried out by the Allied air forces include anti-submarine patrols over large areas of the Mediterranean. Ashore, fighter squadrons spread along hundreds of miles of coastline have to be ready for possible attack which may be directed against shipping at sea, ships in the ports, convoys on the roads or trains loaded with supplies.

It was unfortunate that at the beginning weather and geography gave advantages to the Germans. They still hold another—occupation of the principal existing air bases. There were known to be in the country some twenty air bases and landing-grounds. The main ones were: Tunis-el-Aouina; Tunis-Carthage (seaplane base); Bizerta (Sidi-Ahmed); Bizerta Karouba (seaplane base); Kairouan; and Gabes.

These six bases, all except Kairouan along the eastern seaboard, are in enemy hands. They are strategically placed for both defence and offence. There are other landing-grounds at Ben-Gardane, Bordj-le-Boeuf, Kecira, Bou-Ficha, Fort Saint, Foum Tatahouine, Houmt-Souk-Ile de Djerba (now in the hands of the Eighth Army), Medenine, Remada, Sfax, Souk-el-Arba, Tozeur and Zarais.

Most of these bases are along the eastern seaboard for the simple reason that the French defences were fronted in that direction, as they did not anticipate a need for defence against their own territory to the rear. By now it is to be expected that the



THE WORK OF THE R.A.F. Not only have the Allied shore-based fighters and bombers to provide air cover for the three fighting fronts in Tunisia, but the task of providing protection for the ports and cities has also called for constant attention from British and American pilots

enemy have built other airfields. This lay-out gives to the Germans operational advantages. Their fighters are within five or ten minutes' flying from the battle areas. Our Spitfires and other Allied fighters, operating from bases at much greater distance from the battle areas, are at a serious disadvantage. The duration of the modern, single-seat fighter is short. It has to fly a long way to fight and then all the way back home again; the time it can spend in the area of battle is brief indeed. Thus the Germans are avoiding combat with our fighters over the forward areas, preferring to wait until our pilots are forced to make for home with just enough petrol in the tank to make base. Then the enemy like to pounce on them.

But now let us look at the other side of the picture. During the past three months we have not been idle. Plans have been made to provide the squadrons with the air bases which they have lacked. The aerodrome problem is made complex by the developments of the air war. Gone is the day when the building of one aerodrome would satisfy all requirements in a given area. To-day the headquarters air base must be surrounded by a number of satellite landing-grounds, so that aircraft and supplies of fuel, bombs and ammunition may be dispersed against bombing attack. The initial labour of preparing ground organisation is, therefore, greatly increased, as also is the measure of ground defences and defenders required.

The siting of air bases calls for the closest co-ordination with the land and sea forces. It would be useless to create elaborate air bases behind a fluid battle-line whose sudden movement would inevitably put them out of effective fighter range of the new line. Ideal would be a network of bases, so that fighter and bomber forces giving close support to the Army would have complete mobility. But ideals are rarely achieved, and, perhaps, still more rarely in the early stages of military campaigns. Therefore, a compromise between a poverty of air bases and the ideal is to be expected.

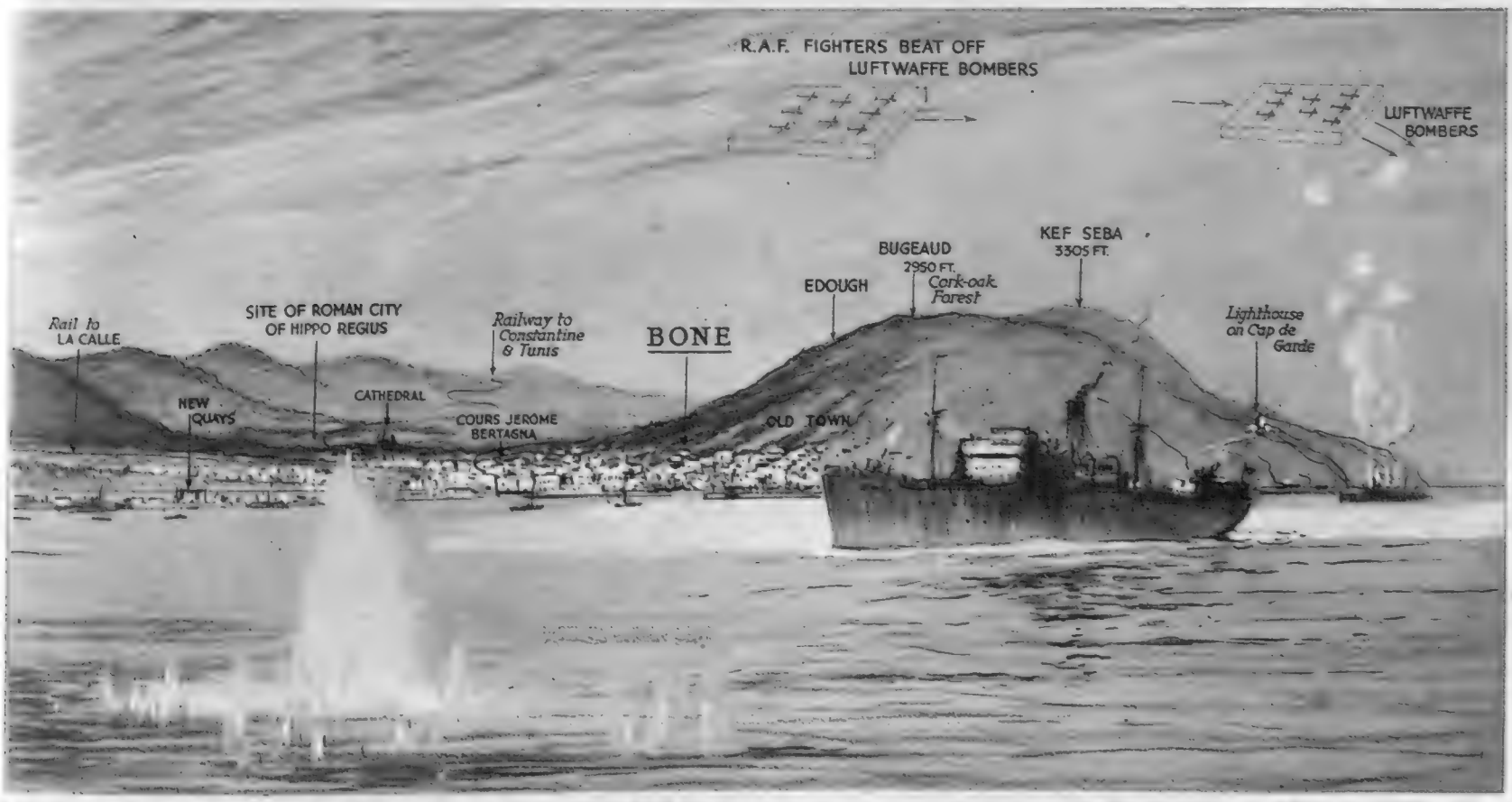
When the rains are over and the earth of Northern Tunisia becomes solid again; when conditions are set fair for constant flying, there is every prospect of the *Luftwaffe* finding itself hemmed in. With adequate numbers of Spitfires operating from bases so distributed that fighter cover can be given when and where needed, the menace of the enemy Messerschmitt and Focke-Wulf fighters will be answered.

Faced with effective fighter counter, the Stuka will not be able to continue its tale of destruction, nor even the Junkers Ju.88.

From the air bases distributed behind our forward line, the Allied air forces will be able to launch day and night attacks on the enemy, pounding away at him until the aerodromes which were valuable to him at the beginning become liabilities to be held at an ever-increasing cost of men, machines and material.

WHAT THE LIBERTY SHIPS WERE BUILT FOR: American-built merchantmen unloading supplies at a North African port. They are brought in under naval escort, and whilst in harbour have additional protection from the R.A.F. and the U.S. Air Forces

ALGIERS CAN PUT UP A VERY HEAVY BARRAGE OF A.-A. FIRE DURING ENEMY RAIDS. Within a very short space of time, the ground defences at this key point have been enormously strengthened. This is the barrage which greeted German bombers when they made a recent attack on the city and harbour



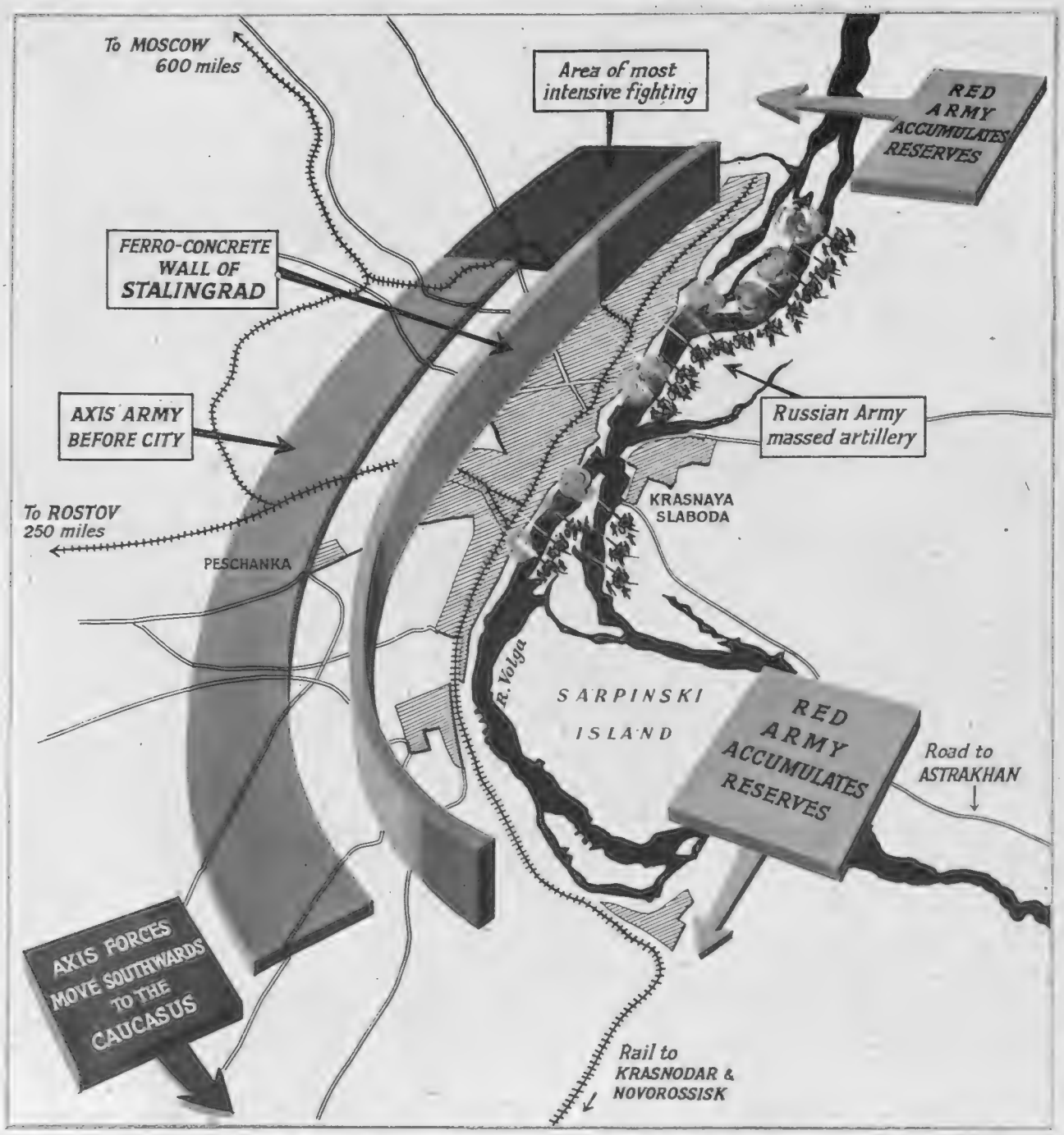
A NAVAL SUPPLY VESSEL ENTERS BONE HARBOUR UNDER COVER OF THE R.A.F. This is one of the several harbours on the northern coast of Africa which have been used for bringing in supplies to the British forces on the Tunisian front—*Drawing by Percy Home*

The harbours on the northern coast of Algeria are adventurous spots these days. Small vessels dash in with precious cargoes, dodging the attentions of the *Luftwaffe*, which is on the look-out for any likely targets hereabouts. Bone is one of the harbours so used. Its natural position affords it excellent protection from the Mediterranean storms. The town and harbour lie on the west side of a spacious bay; the site formerly attracted the Romans, who built the city of Hippo Regius; St. Augustine lived and died here. Roman remains are still to be seen at Hippone, where the big Cathedral of St. Augustine dominates the scene. The Bey of Tunis built a Kasbah here in 1300. The town to-day is bright and clean. Some of the streets which back on to the hillside of Edough are steep and narrow; the public buildings, shops, hotels, banks and theatres line the Cours Jerome Bertagna, a favourite promenade. There is an airfield on the flat ground to the south of the city; the quays are to the south-east. A popular excursion for the inhabitants is to the cork forest high up on the slopes of Edough. A Corniche road runs out to Cap de Garde

THE GERMANS IN RETREAT IN RUSSIA

The Victorious Summer Advance Becomes an Ominous Winter Defeat

—A Discussion of Some of the Reasons Underlying the Russian Successes



THE SECOND RUSSIAN WINTER CAMPAIGN: How the ferro-concrete wall of Stalingrad (its big buildings and factories) stopped the German advance and tied down the enemy's efforts. The detachment of some of the Axis forces towards the Caucasus, and the assembling of the Red Army reserves for the counter-attack, are also indicated in this diagram

Some reasons for the German retreat

(1) Checking of the eastward advance by the ferro-concrete barrier of Stalingrad.

(2) Lack of massed artillery; inability to mass tanks in attack at Stalingrad.

(3) Division of forces entailed by attacks in the Caucasus.

(4) No concentration of reserves.

(5) Too great a reliance on the "hedgehog" tactics of the previous winter.

(6) Inability to cut losses when plans went wrong.

Some reasons for the Red Army's success

(1) Big sacrifices of territory to get behind the defensive wall at the Volga.

(2) Decision to fight Stalingrad as a "fortress," and to use massed artillery in its defence.

(3) Decision to accumulate counter-attack forces at considerable risk.

(4) Employment of "infiltration" methods on the enemy's flanks and rear.

(5) Employment of cavalry and mounted infantry and troops on skis.

(6) Rapid advance of supplies which have kept close behind the advancing troops.

Natural causes which have helped the Russians

(1) Huge reserves of territory untouched by war.

(2) Huge reserves of man-power.

(3) Lessons learned during the first winter campaign and applied during the second winter.

(4) The natural fighting spirit of the Russian peoples, and their devotion to their native land.

IT has been said that Germany in the past has shown a remarkable power in wresting defeat from the very jaws of victory. Certainly when one looks back to the early autumn of last year, to the spectacle of the Russian and German armies racing across the wide stretch of territory between the Donetz and the Volga, it would seem that the phrase is justified by the course of military events on the Eastern front.

The rapidity of the Russian retreat was, indeed, such as might have given the victors cause for thought. The Russians were abandoning a huge area of valuable territory and the Germans were approaching two of their main objectives—the acquisition of iron ore and of oil. But—the victorious advance was brought up against a stubborn obstacle in the shape of the City of Stalingrad, which curved sickle-like for 25 miles around a bend of the Volga.

Nevertheless, the victorious Germans pressed on, and into the outlying suburbs: on October 16 it was claimed that the Germans had established a two-mile frontage on the banks of the Volga. This was later extended to an area of five miles. But then a deadly struggle began, and the nature of the Stalingrad barrier became more and more evident. This was no mere ancient city of brick and wood; everywhere it was strengthened by large modern buildings constructed out of ferro-concrete!

The Red Army was able to use these buildings as improvised fortresses. The steel and concrete of which they were built stood up against a vast amount of bombing, and such buildings as fell provided debris for street barricades which everywhere blocked the Axis forces. As soon as the German Command felt itself being checked by this barrier, it poured in division after division, many of which were dissipated in hand-to-hand fighting. Nowhere was the Volga crossed.

Out of the turmoil in the blackened streets of Stalingrad there emerged a possible reason for the fading away of victory. The tank was employed in repeated waves, only to prove eventually that amid tall buildings and fallen wreckage its fighting value was reduced almost to zero.

At this moment, too, the German High Command were compelled to divide their forces for a desperate clutch for the oil of the Caucasus. Lunges were made towards the Black Sea ports, to the well-heads of Maikop, and along the road to Grozny. A partial success followed this dispersal of force; but, again, victory was withheld from the invaders. The reserves of troops which should have been available were almost non-existent when the Russians struck westward on November 19.

General Rokossovsky began closing round the Sixth Army, inextricably dug in, amid the cellars and tunnels of shattered Stalingrad. In this latter part of November there must have come a moment when the German Army should have decided upon a quick but more or less orderly retreat; but no such decision appears to have been taken. It was only in mid-December that an attempt was made to relieve the now-beleaguered force by General Manstein at Kotelnikovo. The Russian reserves were strong enough to check and throw back this final attempt to stave off disaster. The absence of strategically-placed German reserves now became painfully evident.

All idea of advance had to be given up at every point of the long German line; from Orel to Novorossisk it was now a question of stemming the Russian tide, and for this purpose the "hedgehogs" were not enough.

THE DEFEATED LEADER: Field-Marshal Paulus, Commander of the German Sixth Army at Stalingrad, at Red Army Headquarters for interrogation by his captors

A GERMAN GENERAL PASSES BY: General von Daniel, with the remnants of his Division, passing a dead German soldier on the way to surrender at Stalingrad. He did not even glance at the man who gave his life for the Führer!

HOW GERMAN CARRIER-PLANES WERE USED to transport the wounded back from the bitter steppes in front of Stalingrad. By this means some 47,000 wounded men were brought back to German hospitals. By the same means, food and supplies were flown in to the German "hedgehog" positions around the great Steel City

FOOD WHICH NEVER REACHED THE GERMANS. At the railway station of Abganerovo, Red Army soldiers captured dozens of trainloads of German food, equipment and ammunition. This is a sack of flour which may have been intended for some of the trapped German soldiers in a "hedgehog" position. It will be noted that the sack is flamboyantly embellished with the German eagle and with the Nazi "swastika"

THE END OF THE "HEDGEHOG"?

The Failure of Hitler's Famous Defence System in Russia, and its Wider Implications

WHAT is the major tactical lesson of the recent Russian victories? The failure of the German "hedgehog" system of defence is undoubtedly outstanding. In the previous winter this had astonished all observers by its efficacy: the Russian drives had been deflected by it; the system had enabled the Germans to retain forward bases from which their spring offensive could be launched. But this season it has most conspicuously failed.

A STUDY IN MISERY: A German prisoner huddled against the cold after his capture by the Red Army

The "hedgehog," as a military institution, has certain fixed properties. It consists of a series of strongly-fortified camps, arranged in circles like a star with its satellites, preferably with a town as nucleus. It has all kinds of defences, a complete concentration of these, arranged in the circles to make frontal penetration and surprise envelopment alike difficult. But, no more than any fortress in history, it cannot indefinitely provide its own food, water, ammunition and reinforcements in sufficient quantities to repel a numerically strong enemy. *It must have a link with the outer world.*

Such communications, in the case of the German "hedgehogs" last year, were provided by roads and railways running directly back, and by air routes. The Russians failed to cut the one or seriously interfere with the other. Hitler was able to resist envelopment and maintain a steady forward line level with or just behind his "hedgehog" position.

This winter: (1) the entire German line has been turned, and the *Wehrmacht* forced to retreat in bad order miles behind the leading "hedgehogs"; (2) the Russians have taken particular care to cut railways and roads leading back from those isolated positions; (3) the *Luftwaffe* has been unable effectively to supply the "hedgehogs," because its aircraft have been required elsewhere, and because the Russian Air Force, helped by Anglo-American supplies, has mastered the local skies.

The fact emerges, therefore, that the "hedgehog" system of defence is only successful when reliable communications to the rear can be kept open, and that the most effective strategy against it is large-scale envelopment with particular attention paid to communication lines.

In Russia, such a strategy has been made easier by the dependence of the Germans in winter on the railways, and the few good roads. They have been helpless in the deep snow of the open country. But the Russians, having equipped their armies with skis, even down to light machine-guns and loud-speakers for propaganda purposes, have been able to advance at high speed across country.

The air superiority over the "hedgehog" was obtained by bombing of airfields and by combats. The German anti-tank and machine-gun nests and larger batteries, their dug-in tanks and concreted redoubts were pounded by artillery. Russian heavy assault tanks smashed through the outer defences. Cruiser tanks followed, carrying or dragging infantry, whose task has been to envelop the subsidiary strong-points.

D. C.

POSSIBLE ALTERNATIVES FOR THE GERMANS if they are unable to check the victorious Red Army: in the centre is the famous von Moltke line of 1880

From Orel down to Rostov, the "hedgehog" system of defence invented by the Germans during the winter of 1941-42 has collapsed. The Red Army are battering against the retreating German army without pause: it is obvious, therefore, that the enemy High Command must attempt a stand on some shorter line than heretofore. This will involve a retirement along the whole front—north as well as south. About the year 1880, at a time when relations between Russia and Germany were very strained, the German Field-Marshal von Moltke worked out a "plan" for the defence of his country which might well be under consideration by the Germans to-day. Moltke's line began at Lake Peipus in Estonia; it then ran southward along the River Dvina, by way of the Pripet Marshes, down the River Dniepen to Odessa. Such a line would still leave the Germans in possession of a large part of the Ukraine and practically the whole of Poland; along it, and behind it, would be many strong-points which the Russians might find it hard to subdue. But, for Germany, it would be the "last stand"!

DEATH COMES TO THE RETREATING GERMANS AND HUNGARIANS ON THE FROZEN STEPPES: Soviet tanks cut off the head and tail of a fleeing column and force the enemy to flee on foot across the snowy wastes, to be cut off by the Red Army infantry—*Drawing by E. Byatt*

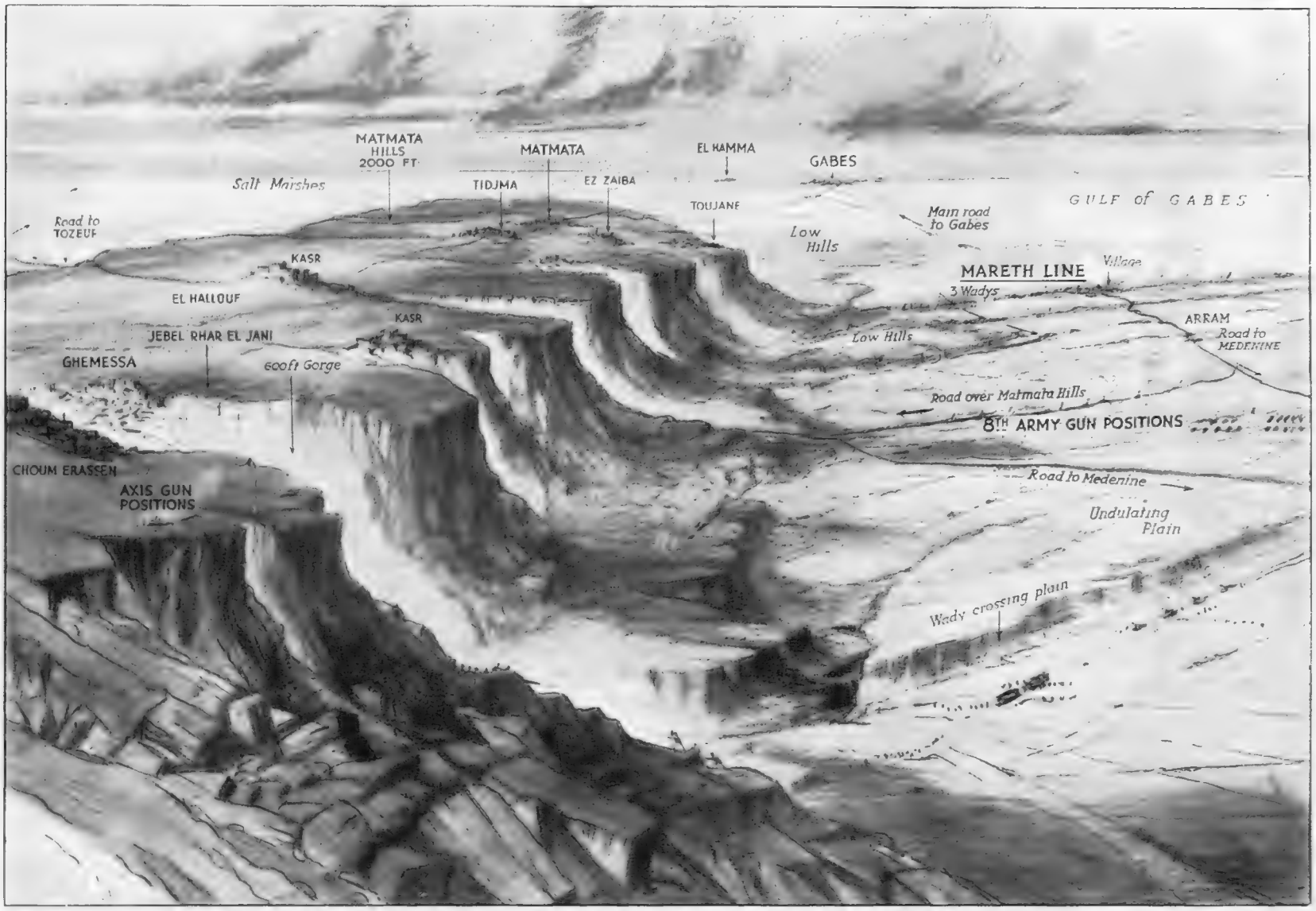
HOW THE RED ARMY FIGHTS

Two Special Drawings to Illustrate the Surprise Tactics of the Russians, During their Great Winter Offensive Against the Axis

The two drawings reproduced here have both been drawn up from Russian sources. The upper one depicts an incident during the fighting north of Kursk, when "the cosy rear of the German Army had suddenly become a kingdom of death." At this point, German and Hungarian troops were retreating together. Soviet tanks would appear suddenly at the head and tail of every column: the sappers riding on the tanks would blow up the railway track at both ends—so that there was no way out for the retreating trains. "The enemy soldiers jumped out of their trucks and retreated into the snow, into the cold, into the bleak, deserted kingdom of death." Unlike the Germans, whom the wind and the cold and the snow and the ice cripples, the Red Army men can advance in any weather. Germans have still not found a way of beating the Russian winter!

The lower picture illustrates still another tactic pursued by the Red Army in the fighting around Kursk. Here the Germans had long laboured to perfect their trench system, and here they sat back snug and secure. "Then the blizzard began. It streaked along the ground . . . and everything went white, everything went up in a flutter, everything howled. The February storm screamed with a thousand voices. Death came out of the blizzard. He rose before the German trenches so suddenly and terribly that officers and men ran back to their second line without firing a shot."

DEATH COMES OUT OF THE BLIZZARD: From out of the snowy pall, the Russian infantry suddenly loom above the enemy sheltering from the snowstorm. Their appearance was so sudden and so menacing that German officers and men ran back to their second line without firing a shot—*Drawing by W. G. Whitaker*



HOW THE MATMATA HILLS (2,000 FT. HIGH) FLANK THE FAMOUS MARETH LINE: Cut by gorges 600 ft. deep, the hills also contain villages and old fortresses on the cliff edges. It is here that the guns of the Eighth Army have been massed for the assault against Rommel.—*Drawing by Percy Home*

The MARETH LINE

The Fortified Positions which bar the way to the Eighth Army coming up into Tunisia from Tripoli

The southernmost part of Tunisia presents some violently contrasted terrain for an army fighting on an extended line. The Matmata Hill district is a good example. Near the sea are marshes, none too healthy, and patches of sandhills. These are succeeded by a slightly undulating plain crossed by a number of dry wadis liable to sudden and violent flooding. The plain affords a certain amount of cover among its undulations, which are, in part, covered with vegetation. Moving still further inland, broken ground is encountered; and then, rising up in front, are the stark, sheer cliffs of the Matmata Hills, 2,000 ft. in height, and forbidding in the extreme to an army which must take them by assault. The hill mass is broken by ravines 600 ft. in depth. To the sides of these cling villages which are inaccessible to one another except by means of wide detours. Rock-strewn slopes provide natural cover. Once upon the summit, a number of tracks connect up the villages and ancient fortresses. Only one road of fairly good character is indicated on maps as crossing this part of the Matmata Hill district. It branches off from the Medenine-Mareth road as indicated in the drawing above and, after climbing the hills, drops to the plains beyond on its way to Tozeur. The villages are most numerous at the northern end of the hill range, with Toujane occupying an easterly position and Matmata a more central one. From the latter a road proceeds northwards towards Gabes. On the heights it is possible to signal from point to point, and all movements on the plain below can be detected by observers at well-placed points of vantage.

THE POST ARRIVES FOR THE EIGHTH ARMY: But—only a packet of old newspapers, and no letters from home!

WRITING HOME: In their rock-bound home—a gully in one of the African wadis—two soldiers of the Eighth Army take time out to write to the folk at home

Mail is a big morale builder for troops who have been on active service for months and years. It is not easy for men living the nomad life of the Eighth Army always to keep up to date with their correspondence; but that does not lessen their anxiousness to receive letters from the Homeland. Most of the troops "bed down" early, before the night gets too cold: many of them try at such moments to catch up on their reading and correspondence: but there is the black-out (and the enemy), to prevent an exact schedule. The three sketches reproduced here are intended to serve as a reminder to those at home of some of the difficulties with which the troops have to contend

IT IS NOT ALWAYS EASY to find the convenient moment and place to write letters. The black-out is a difficulty, and some soldiers prefer to write and read when in bed.—*Studies by E. Byatt*

MARCHING THROUGH THE DESERT: THE MEN WITH THE MOST WONDERFUL FIGHTING RECORD OF ANY BRITISH ARMY, the men who marched and fought their way from El Alamein to Tripoli, and then on to the Mareth Line and Tunisia—*Drawing by Edward Osmond*

THE EIGHTH ARMY

"The Finest Instrument of War in the History of the British Army"
—*Sir James Grigg*

It looks as if, in the years to come, when the fighting and the bombing have all died away, there may be nothing prouder for a man to say than "I was with the Eighth Army in the Desert." Putting vainglory aside, it would seem as if the whole world—including the Axis powers—are now realising that, in their achievements of the past few months, the men under Generals Alexander and Montgomery have achieved victories and performed feats of arms which have never before been equalled in military history.

From all over the world—Australia, New Zealand, India, and many other lands—and from nearly every county of Britain, the men of the Eighth Army gathered in Egypt for the final assault on El Alamein, when the flower of the Germans; the much-vaunted Afrika Korps, went down in defeat. After that great event, which surely will go down as one of the greatest stand-up actions ever fought, the desert men, bare of knees and burnt of skin, strode through the colonies of ancient Rome right up to the heart of the Tripolitanian capital before going on to further conquests in Tunisia.

When the Eighth Army entered the streets of Tripoli City, they marched with a swing which the spectators could not witness without a stirring of the pulse. Mr. Churchill, recounting the scene, described how the men had fought and marched—"and how they marched!" he added with emphasis. "In these remorseless three months," said Mr. Churchill, addressing the men in Tripoli, "you have chased this hostile army over a distance of more than 1,500 miles—in fact, as far as it is from London to Moscow. You have altered the face of the war in the most remarkable way. . . . In the words of the old hymn, 'You have nightly pitched your moving tents a day's march nearer home.'"

And in the House of Commons, on February 25, Sir James Grigg, Secretary for War, told how the year 1942 "produced in the Eighth Army the finest instrument of war which has so far been fashioned in the history of the British Empire."

Now the same men, under the same leaders, stand at the southern gateway to Tunisia. With their proud record achieved over 1,500 miles of desert, they are now looking forward to further laurels in the fighting which still lies ahead!

On left—**THE MAN WHO LED THEM TO VICTORY. General Montgomery, with Major-General D. N. Wimberley, G.O.C. of the Highland Division, witnessing a theatrical show given by an Army concert party in Tripoli after the occupation**

On right—**FIGHTING THROUGH THE DESERT. The manner in which the men of the Eighth Army fought amidst the swirling dust and sand during their 1,500-mile trek from Egypt to Tripoli**—*Drawing by Edward Osmond*

WHAT WIND AND WATER CAN DO TO A WARSHIP OF 1,375 TONS: A roll of 48 degrees experienced by H.M.S. "Forester" during bad weather at sea. Her ship's company thought she was about to turn turtle, as she was over the "half-way" mark, but she recovered—and went on to complete her 200,000 miles of steaming since the beginning of the war

HEAVY SEAS SWEEP H.M.S. "FORESTER" AT BOW AND STERN: An impression of the 1,375-ton destroyer (of the Eclipse class) at a moment when the high-flung bridge in a sea of flying sand. During the war H.M.S. "Forester" has steamed a distance equal to nine times round

H.M.S. *Forester* is a destroyer of the Eclipse class of six sister vessels. She has just completed 200,000 miles of steaming since the beginning of war in 1939; and she claims to be the first destroyer to have reached this remarkable total, which is equal to nine times round the world.

The achievements of *Forester* include a share in the sinking of the second U-boat of the war—in September 1939. To her credit, there is also one U-boat probably damaged in the same month, and another sunk in June 1941.

She has served in the Mediterranean and in the Arctic, taking convoys to Malta and to Russia. Only once have her engines stopped at sea, and that was due to enemy action when she received a hit in the boiler-rooms. In spite of escaping steam and damaged machinery, the engine-room staff got the destroyer moving again in 40 minutes. In this action, her Commanding Officer was killed, so the First Lieutenant took over, and brought the ship safely home. He was awarded a D.S.O.

The *Forester* has had her share of bad weather, and in her log-book is recorded a roll of 48 degrees. Her ship's company thought she was about to turn turtle, but she recovered.

Her officers estimated that on several occasions in the Arctic there has been as much as 100 tons of ice on the upper deck. Guns were covered with ice, and ropes were frozen solid. The Commanding Officer says that even his beard was frozen! As fast as the ice was hacked from the deck, it formed again.

In one gale off Iceland, men working aft were trapped in the after compartments, while those forward were caught there. For twenty-four hours the heavy seas breaking over the ship would have made it suicide to go on deck. Recently H.M.S. *Forester* has been to Russia. While she was there the

WHAT THE CAPTAIN AND OFFICERS SAW FROM THE BRIDGE: The decks of the destroyer swept by heavy seas during the very rough weather she has experienced during her long and arduous wartime service. "Forester" has served in both the Mediterranean and the Arctic, taking British convoys to Malta and to Russia, and she has had her fair share of gales and hurricanes

TERRIFIC WEATHER AT SEA...

Three Studies of H.M.S. "Forester," the Destroyer which has Just Completed 200,000 Miles' Steaming

waves isolated the men in the forward and after compartments and surrounded the he world—*Three drawings by Montague Dawson*

Russians lent skates to her crew and taught them to skate on the surface of a frozen lake. Now H.M.S. *Forester* is at sea again—on to a quarter of a million miles' steaming!

This Eclipse class destroyer was laid down in May 1933; she was launched in June 1934, and completed in March 1935. The average speed of this class on trials was well over 36 knots, but some were reported to have reached 38 knots. *Forester* has a displacement of 1,375 tons, and carries a complement of 145 officers and men. At an economical cruising speed of 15 knots she has a radius of 6,000 miles: to do this she has space for 480 tons of oil fuel in her bunkers. The average cost of vessels of the Eclipse class is £300,000 apiece.

Armament consists of four 4·7-in. guns, one 4-in. anti-aircraft and six smaller weapons: in addition, *Forester* has four 21-in. torpedo-tubes and two depth-charge throwers.

TWO PICTURES FROM THE NORTHERN CONVOY ROUTE TO RUSSIA, where it is winter all the year round. The scene on the deck of a British cruiser where the ice forms feet thick, and where the "chipping parties" have to work continuously to keep the guns free

A STERN VIEW AND A BROADSIDE VIEW OF A 10,000-TON LIBERTY SHIP, built in American shipyards to maintain commerce between the Allied Nations—*Drawing by Wm. McDowell*

THE NEW U.S. LIBERTY SHIPS

Some of their Special Features for Beating the U-Boats

The much-discussed Liberty ships are standard American-built cargo vessels of about 10,500 tons. They have been specially designed for cargo-carrying in wartime, and might well be termed "Austerity" ships, for they are stripped of all non-essentials and luxuries. Their design combines the maximum speed and cargo capacity with economy of fuel, and their cargo-handling arrangements are adapted for speed and ease of loading and discharging. Their chief advantage is, perhaps, the speed with which they can be built, being pre-fabricated and mass-produced; welding (in place of riveting) plays an important part in their structure. They have a raked stem and a graceful curved stern, and are splendid sea-boats. They are fitted with every possible device for life-saving. One of these vessels is commanded by Captain Hugh N. Mulzac (of Brooklyn, New York), the only Negro master-mariner of a deep-sea vessel. His ship recently made her maiden crossing with a cargo of war material.

BRINGING COAL FROM THE TYNE TO THE THAMES by way of "E-boat Alley," off the east coast of England. For 800 years and more, coal has been shipped on this North Sea coastwise route, and Hitler has failed to stop the coal convoys in this war

THROUGH "E-BOAT ALLEY" WITH THE COAL

An average collier carries some 2,000 tons of coal—the equivalent of ten trains. For centuries ships have brought their cargoes from Tyne to Thames, and the ship-masters of to-day are determined that Hitler shall not stop their commerce. Up and down the East Coast they ply, escorted by the ships and guns of the Royal Navy, braving the dangers from the air and the dangers from the E-boats in the famous "E-Boat Alley."

At one time, hardly a trip was made without trouble: to-day, thanks to the R.A.F. operating from shore bases, the German bombers are more noticeable by their absence! The strain of operating through the infested waters of the North Sea is, nevertheless, considerable, and keeping station in the black-out is a severe strain on the collier captains.

The services of the Tyneside colliers has meant a great lightening on the rail services of the country. The crews who take part in this commerce are many and varied, coming from a score or more of countries

THE CONVOY BRINGING THE COAL NEARS ITS DESTINATION, protected by the guns of the Royal Navy against the activities of the Nazi bombers—*Two drawings by P. Padden*

TIGER TANK *v.* SIX-POUNDER GUN

The Problems of the British and Allied Anti-Tank Gunners Against the New German Monsters: The Future Developments in the Ratio Between Guns and Tanks

SUCCESS with tanks, every campaign of the war has revealed, depends on ability to withstand anti-tank fire. There is a constant see-saw, with the Germans hitherto ending on top. Our guns prove inadequate against their tanks. We produce bigger guns, only to find that the enemy has stronger tanks. But events in Tunisia may show we are catching up.

Here the Germans have hoped for a tactical surprise and swift success with their new Mark VI tank, the Tiger, a monster vehicle of some 55-60 tons. Initially, this did gain ground and temporary mastery. Scattered American tanks in its path were destroyed. But soon we turned the tables, and it should be noted how, from the first, we had no difficulty in knocking out respectable numbers of what might be described as Hitler's last tactical hope.

Anti-tank guns, it will probably be found, were responsible for most of the Mark VI casualties. There is reason to believe we have in Tunisia considerable numbers of the new 6-pdr. Until Alamein our anti-tank artillery was always too light, but hastily-provided 6-pdrs. played a decisive part in the culminating stage of that battle. Once again, in Tunisia, they may win.

The new gun has three outstanding features: its heavy, armour-piercing shell; its wide range; and its rapid rate of fire. The weight of the shell is probably the most important—we have had wide-ranging, quick-firing anti-tank guns before whose shells have been deflected like peas by the hard skins of German tanks—but that combination of weight *and* range and speed is doubtless the factor that surprised the Tigers.

The great thing to remember about anti-tank gunnery is that, to secure perfect results, all circumstances must be just right. The angle of the hit should be, if possible, not less than 90 deg.; a 60-deg. angle may reduce the penetrative power of the shell from a fifth to a quarter. Then the gun must be capable of firing again quickly if the initial round is unsuccessful. It will not have many chances if it is slow.

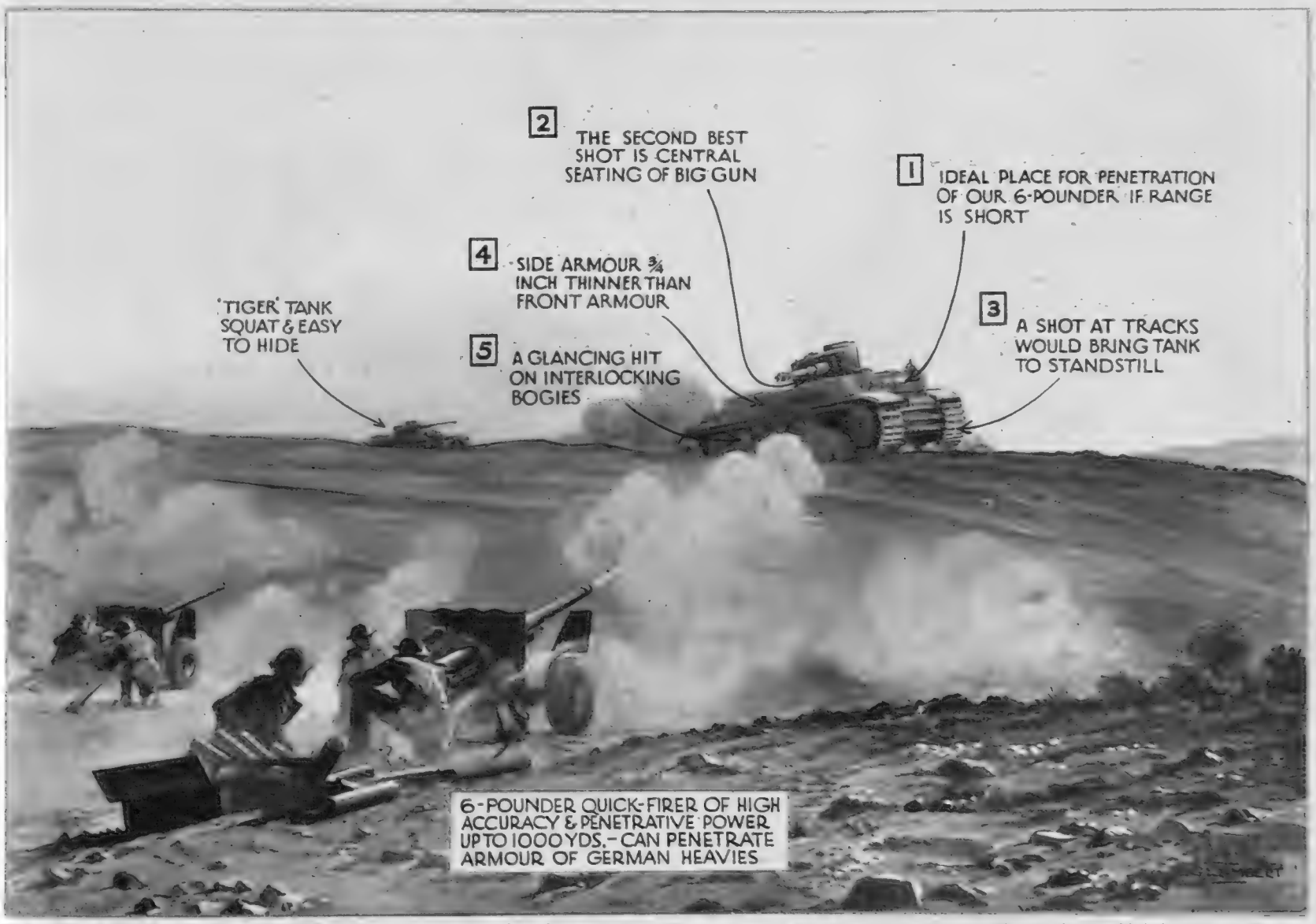
Actual performance figures of the 6-pdr. cannot be given, but at a recent demonstration one of these weapons fired sixteen rounds at a moving target, and scored, for certain, fourteen direct hits. This performance was achieved up to a range of approximately 1,000 yards. The new gun can, therefore, engage tanks with a great degree of accuracy.

But there is an important point that must worry even the most uninformed observer. These monster German tanks are not, for all their weight, conspicuously large. Working on the lessons of the war to date, the designers have built the Mark VI squat and broad-beamed. It would probably be easier to hide them beneath hillocks and ridges than, for instance, our own towering Matildas, or even the Shermans. Pictures of them show they are concentrated in every sense of the term. They must therefore present difficult targets for our gunners. At what particular part of the Tiger would the 6-pdrs. aim?

If the gun is within easy range of the tank, it would presumably be aimed dead-centre, with the object of piercing the armour in front of the driver's seat, and, by exploding within the vehicle, completely gutting it. That does, of course, demand a fairly level trajectory and first-class gunnery. That our 6-pdr. shells can pierce the armour of Tigers was demonstrated the other day by Sir James Grigg, who asserted that complete penetration had already been achieved four or five times.

Such is the ideal. The secondary mark, if the tank is approaching, would be the seating of the great central gun. A direct hit might not penetrate the thick armour here, but it would stand a good chance of so jarring the delicate electric mechanism of the gun and turret that the Tiger would be bereft of his claws. Then a lucky shot at the front of the tracks—though these make a difficult target from the front—might finally bring the monster to a standstill.

From a distance, however, the gunners would wait, if possible, till the tank was side-view, or partly side-view, in their sights, after which they would aim to hit either the bogie-wheels, or, if the tank was not too far distant, the side armour. This



THE GERMAN TIGER AND ITS ANTIDOTE: Where to hit the monster—and why. The best spot is in front, as a shot at the tracks would bring the tank to a standstill; but, equally, a hit on the bogies at the side would also immobilise the Tiger—*Drawing by G. E. Lambert*

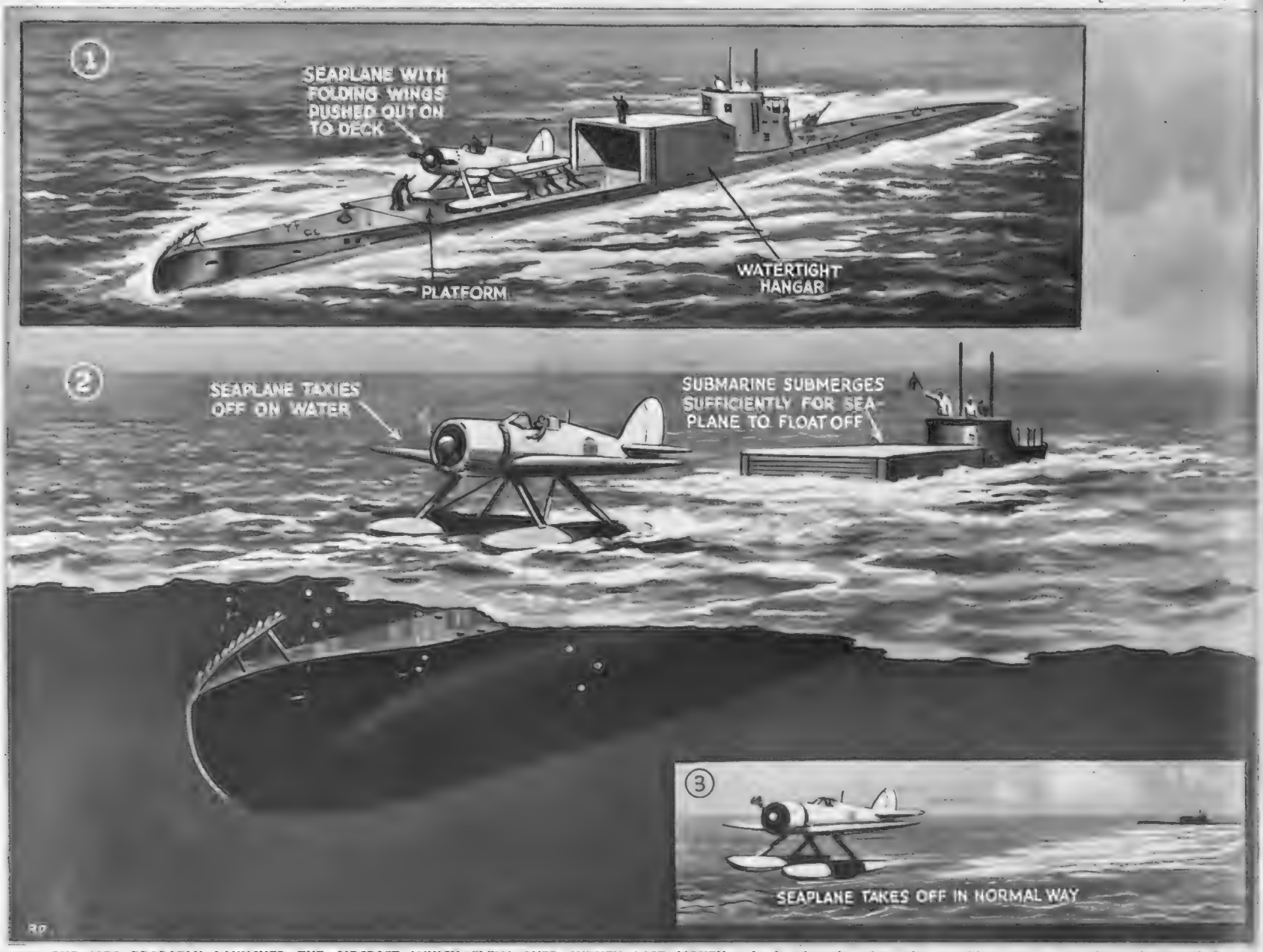
The drawing reproduced here compares the heavy tank with its rival, the anti-tank, 6-pdr. gun of the Eighth and First Armies. The gun has a high accuracy and penetrative power at ranges up to 1,000 yards: it must be seated on level ground to ensure a hit at an angle of 90 deg. (which is the gunners' ideal). When in action, the 6-pdr., under the best conditions, should be accompanied by tanks and infantry with automatic weapons. When considering where to hit the big Tiger tank, the gunners must take into account the following factors: the ideal place to hit is in front, and a penetration can be achieved by our 6-pdr. here provided the range is short and in circumstances in the gunners' favour: the side armour is ¾ in. thinner than the front armour, and the complicated suspension system, with interlocking bogies, is a weakness. A hit on the turret, whilst not necessarily penetrating, would certainly put the gun out

Six were blown up at once in the Hatob River valley, at the beginning of the German thrust; each report from Tunisia since has spoken of the destruction of Tigers, sometimes as many as thirty in a clump. Whether or not this has been responsible for Rommel's retreat—equally responsible might be the necessity of turning to meet the Eighth Army or a general retirement order to all German outlying forces by the harassed Reich war leaders—the fact remains that the new monsters are not invincible.

Our own tanks, the British Churchills and American Shermans, might have contributed to the discomfiture of the Tigers. Being lighter, they would be able to outmanœuvre the giants, and the 6-pdr. guns of the Churchills would have a vicious bite. So long as they could, by clever manœuvring, keep out of the direct fire-path of the immense 88-mm. gun, with its 33-lb. shell, on the German tank, they need not fear to tackle it. But it would be foolish to imagine Tigers and Allied tanks of half the weight meeting in equal combat and the British and Americans being victorious.

armour is only 3½ in. thick, whereas the front armour-plates of the Mark VI are about 4 in. and the German crews often reinforce the front with spare tracks, clamped there. The tracks and bogies at the side are perhaps more vulnerable in this than in other German tanks, as the suspension system, to take the great weight, is most complicated. The wheels overlock each other, and a glancing hit may be sufficient to jam them.

But it would not do to underrate this latest German monstrosity. Built primarily for defensive fighting, it is mobile artillery of the most modern kind, and, properly used, could easily outrange and so hold at bay our 6-pdr. anti-tank guns. The complete antidote would be a still stronger gun—our 3·7-in. anti-aircraft piece might be adapted—or a tank of equal capacity. Way back in 1940, Mr. Peter Bennett, as Director-General of Tanks and Transport, told us that "80-ton tanks were being produced in this country." When the final clash comes, our Royal Armoured Corps may not have to look far for a theme-song—"Get That Tiger!"



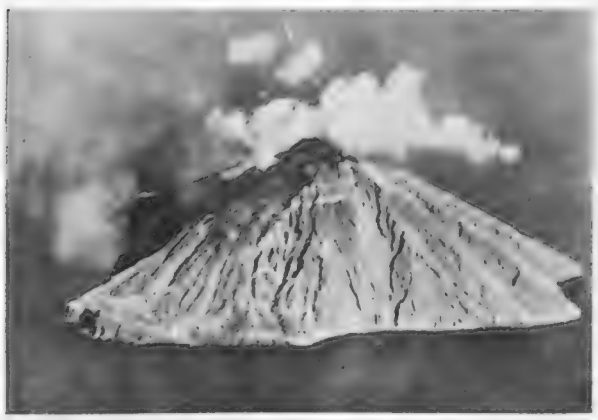
HOW THE JAPS PROBABLY LAUNCHED THE AIRCRAFT WHICH FLEW OVER SYDNEY LAST MONTH. It is thought that the machine was a seaplane, launched from a submarine in the manner shown in the above diagrams—*Drawing by Roland Davies*

A few weeks ago, an enemy plane, "apparently from a submarine" (according to the official statement), was located on the Australian coast. Later, the city of Sydney was blacked out and anti-aircraft guns opened fire. The manner in which the aircraft was probably brought to Australia is indicated in the above diagrams. There is nothing new in the idea of carrying a seaplane aboard an underwater craft—in fact, the first submarine ever to do this was the British *M2*. Later, the French *Surcouf* (the largest submarine in the world, lost during the present war) was also equipped with a seaplane. The aircraft on the Jap submarine would probably be housed in a watertight hangar: from this it could easily be pushed out on to the deck when wanted, and floated off on to the water in the manner shown above, for a normal seaplane take-off. It is not possible to say whether the Japs calculate to retrieve both plane and pilot after a flight: they may be content to retrieve only the pilot, abandoning the plane to its fate. But, in a quiet sea, it may be their intention to attempt to salvage the plane as well, by manœuvring the submarine beneath it: the conning-tower would remain above the water, enabling the commander to manœuvre his vessel until the plane could be lifted

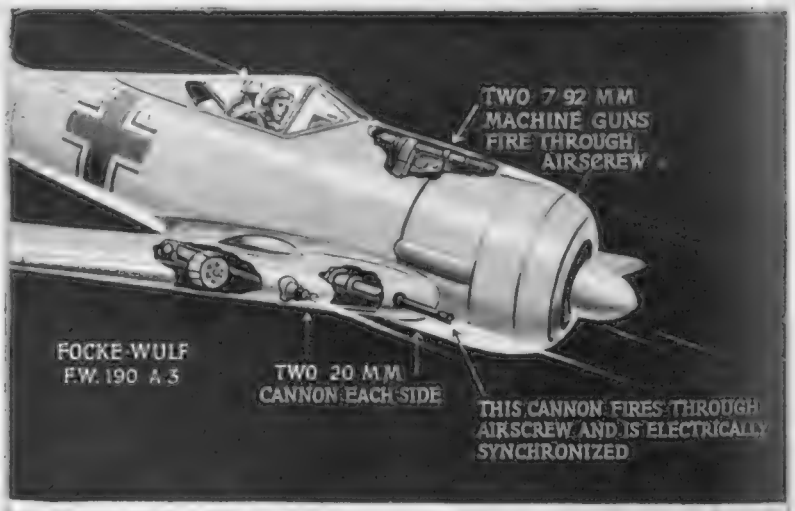
THE WAR BY AIR: Some New Pictures

***On right*—TWO "DESTROYERS OF THE AIR" COMPARED: The armament of the Focke-Wulf 190 (above) and the British Hurricane II-C**—*Drawing by Roland Davies*

It has been stated that, in their new Focke-Wulf, the Germans "have a more powerful gun group than there is in any standard British single-engined fighter." This is due to the fact that (despite a smaller wingspan than the Spitfire) it carries four 20-mm. cannon; it is true that some of these fire through the airscrew, a method which is now somewhat discredited, owing to the slowing down in the rate of fire; but it also mounts two machine-guns. And against this concentration, the Spitfire has only two 20-mm. cannon and four machine-guns; the Hurricane II-C (on right) has four cannon but no machine-guns. The Hurricanes' guns are capable of firing 600 lb. of explosive shell per minute. (Its predecessor, the II-B, armed with machine-guns as against cannon, can pour out 14,400 rounds per minute!) In the drawings on the right, it is interesting to observe how the Focke-Wulf's cannon protrude but little beyond the wings; this helps the aircraft's aerodynamic qualities considerably

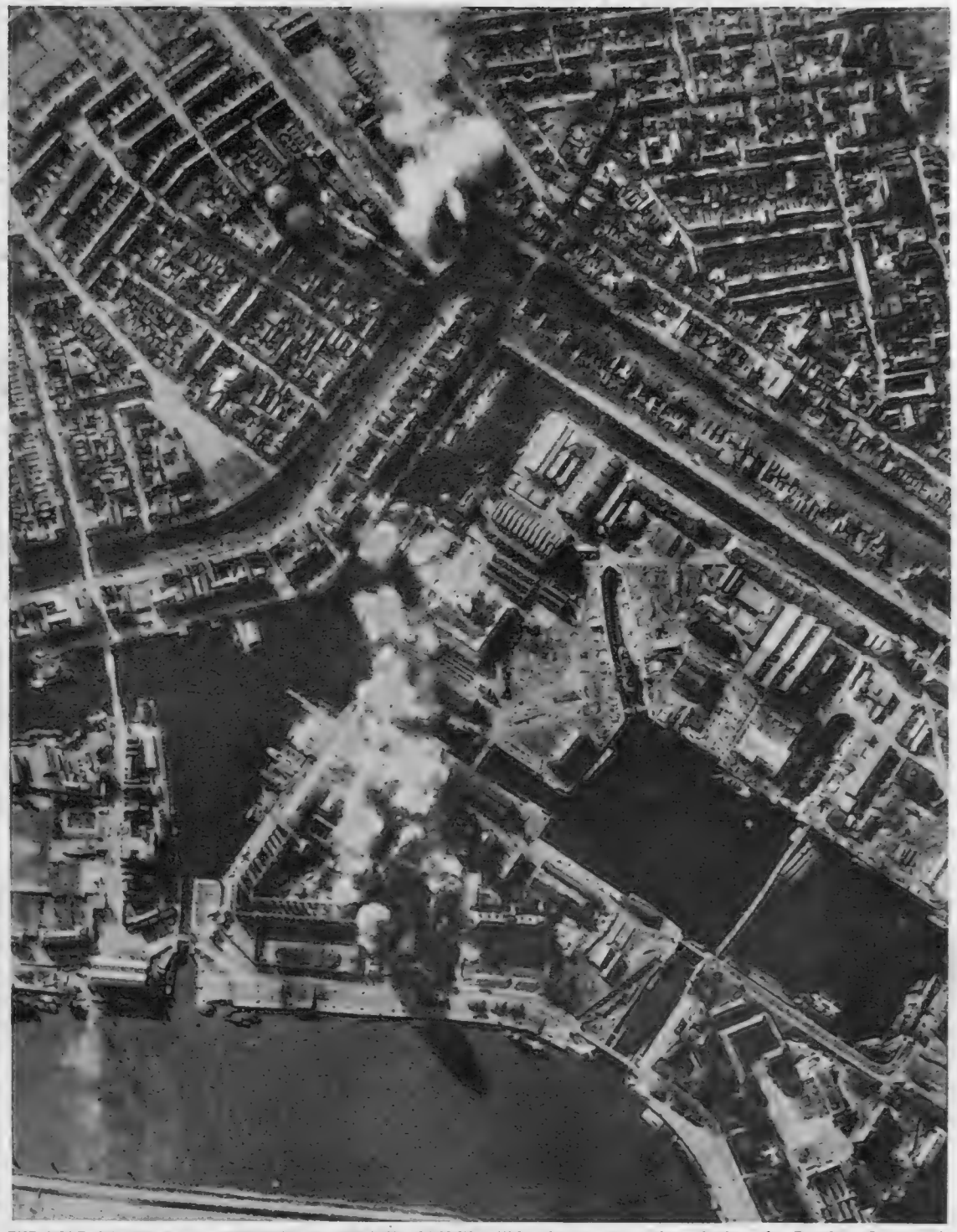


AN R.A.F. GLIMPSE AT STROMBOLI: A remarkable photograph of the Italian volcanic island, as seen from a reconnaissance aircraft flying at 18,000 ft.



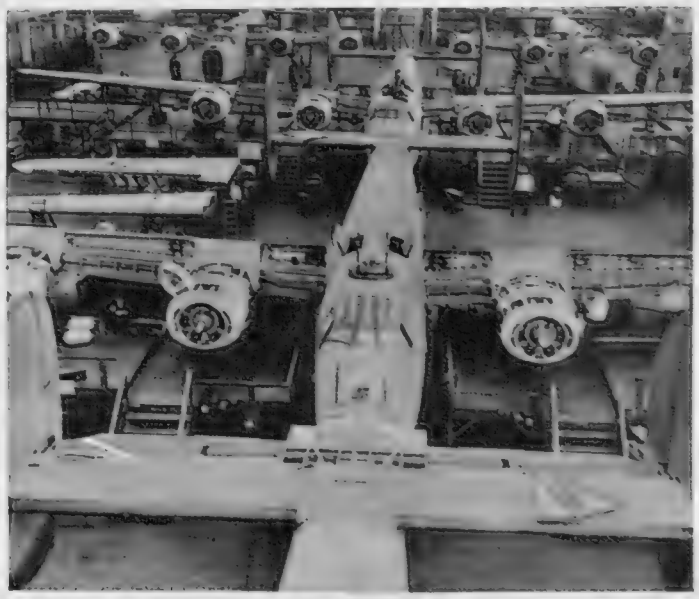
TWO PICTURES OF THE U.S. ARMY'S NEW DIVE-BOMBER: The new Curtiss A-25 dive-bomber, an Army version of the Navy's "Hell-Diver." It is stated to have a greater speed, range and striking power than any dive-bomber now in action

DOUBLE-LINE ASSEMBLY AT A U.S. AIRCRAFT FACTORY: On the line in the foreground are B-24 Liberator bombers receiving final equipment. Behind these are big C-87 transport planes which are made in the same factory



THE ROLE OF THE R.A.F. VENTURAS IS DAYLIGHT ATTACK. This picture was taken during the Bomber Command raid on the docks at Den Helder, on February 19. The Dutch port on the North Sea has been attacked a number of times by the R.A.F. Its value to the Germans is considerable, as its docks and harbours are important. In peacetime, part of the Dutch Fleet used to be stationed here. On February 19, Venturas carried out a daylight "Blitz," being escorted to the target by fighters. The fine and clear picture reproduced here was taken whilst this raid was in progress. It will be seen that many bombs are bursting across the southern entrance of the Naval Basin, four of them in the Inner, or Naval, Haven. Hits were scored on the torpedo-boat establishment and on the torpedo workshops east of the entrance. In the upper part of the picture smoke is also seen rising from bombs which burst in a line across the railway in the south-west part of the harbour

HOW AIRCRAFT MOTORS ARE CARED FOR IN NORTH AMERICA. A scene on one of the Canadian-built airfields along the newly-constructed Alaska Highway. The twin engines of a transport plane are protected by tarpaulins against the sub-zero weather, while hot air is pumped up to the motors before the aircraft's take-off



A SCENE AT HENRY FORD'S WILLOW RUN PLANT: Planes moving on twin-production lines (background) come to a single assembly line, where the outer wings are added (foreground). Then the Liberators move along the conveyer line to the point of final completion. 1,250,000 parts are put together for each of the bombers

What the CAMERA SEES by NIGHT

An Analysis, by an Expert, of a Recent Naval Night Photograph

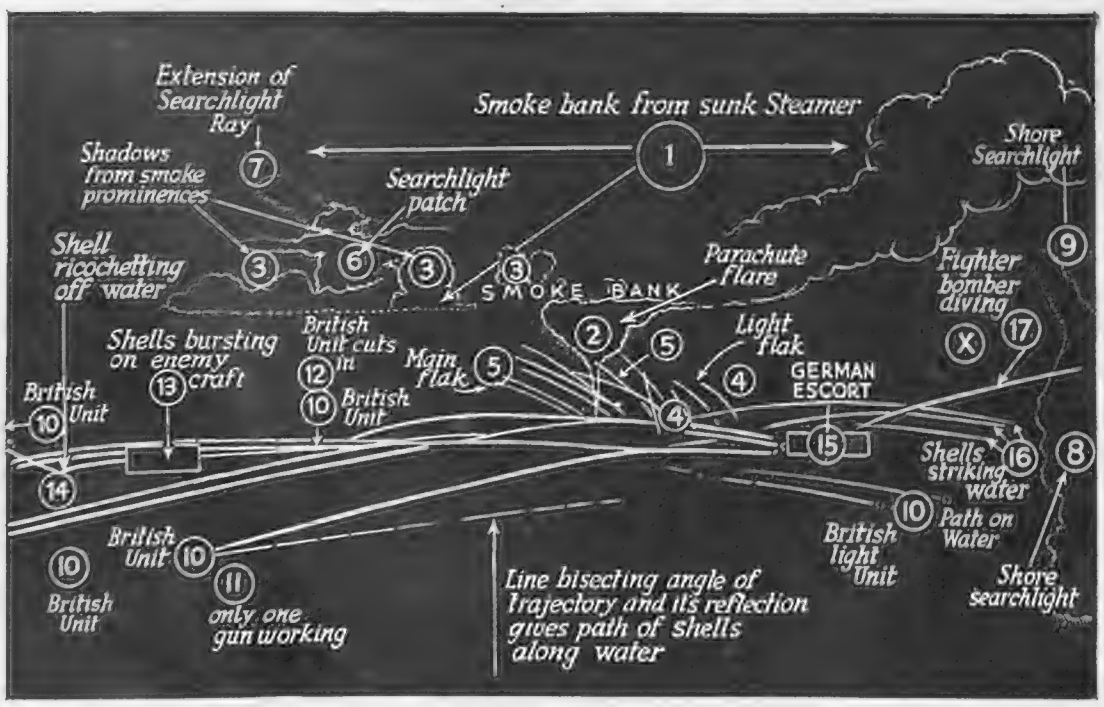
On a pitch-black night in the Channel recently, a Nazi convoy attempted to sneak through the narrows. During the course of the action which followed, the photograph given on the right was taken. It shows a confusion of beams of light, masses of dark cloud, and other groups of light and shade most difficult for the layman to disentangle. The picture has, however, been analysed by a *Sphere* expert, and his drawing tells a very interesting story.

Here it is: a German supply ship, set on fire, has sunk, leaving the huge pall of smoke at 1. This is evidenced by the fact that the smoke has been cut off abruptly and is not being renewed. The vessel probably exploded. (Had this mass been a smoke-screen laid by the vessels engaged, it would not have risen, as smoke-screens are designedly heavy and disperse only slowly on the water.) A British plane has dropped a parachute flare at 2, just under the near edge of the smoke, to light up the German convoy. It is very brilliant, casting clear-cut shadows at 3, and has a "waterspout" appearance, partly because flares shed an irregular string of glowing fragments, and partly because light flak at 4 from two German ships almost abreast is smashing it. Machine-guns are best used for this, and this is confirmed by the marked curvature seen in the right-hand tracer-jets. These belong to the second supply ship, which is on the inshore side for greater protection, and is contributing little to the main flak, 5, though another German escort is. This main flak is aimed at some British aircraft around the left border of the picture. German searchlights trained in a similar direction strike the smoke in the bright patch at 6. Their direction is shown by the dim extension at 7 into the smoke beyond it. This bright patch is not a second flare inside the smoke, as nearby shadows are not affected. A very powerful shore searchlight is inquisitively butting in on the right border. It lights a path on the water at 8, its almost head-on direction causing considerable surrounding halation on the photographic plate. The same cause thickens its source, 9, into a coarse plume. The convoy is proceeding *from under the smoke* to the right and has become huddled together, being assailed from all angles on its offshore starboard side by five British light units at 10, each having two small-calibre guns in action. The almost unbroken trajectory-streaks of the last speak of the very high rate of fire and the large percentage of tracer characteristic of such automatic weapons. The vessel at 11 has probably had one gun put out of action; that at 12 has cut in between the convoy and the German escort, 13, which has become separated, is no doubt disabled and about to be sunk at point-blank range. Shells can be observed bursting along its hull and waterline.

A German shell from the convoy can be seen ricochetting at 14. Among the shells aimed at the last German escort at 15 can be seen a few misses striking the water beyond it at 16. Finally, this escort is being attacked with cannon-shells from a fighter-bomber diving at it at 17. The British boat on the right is clearly a motor gunboat. The flashes of the bow and stern guns can be plainly discerned. The German at 15 is an E-boat. The far German escort in the centre is a flak ship. The dimness of the flare reflection in the photograph suggests that more smoke may be present than could be caused by gunfire. Possibly the aircraft which found the convoy and dropped the flare to illuminate it also laid smoke to mask the approach of the gunboats.

THIS PICTURE WAS TAKEN BY NIGHT IN THE CHANNEL, when the Navy caught a Nazi convoy. An expert analysis of the picture reveals with exactitude all that took place when the camera lens opened. What this was is revealed in the reconstruction drawing below and its accompanying key

THE ACTION IN THE CHANNEL PORTRAYED IN THE PHOTOGRAPH AT THE TOP OF THIS PAGE IS HERE ANALYSED IN DETAIL. The drawing shows how the action was fought and how an enemy supply ship had been sunk, with the results described in the accompanying notes. What is happening in this drawing (and in the photograph on which the drawing is based) is further indicated in the key below



GERMANY ON THE DEFENSIVE

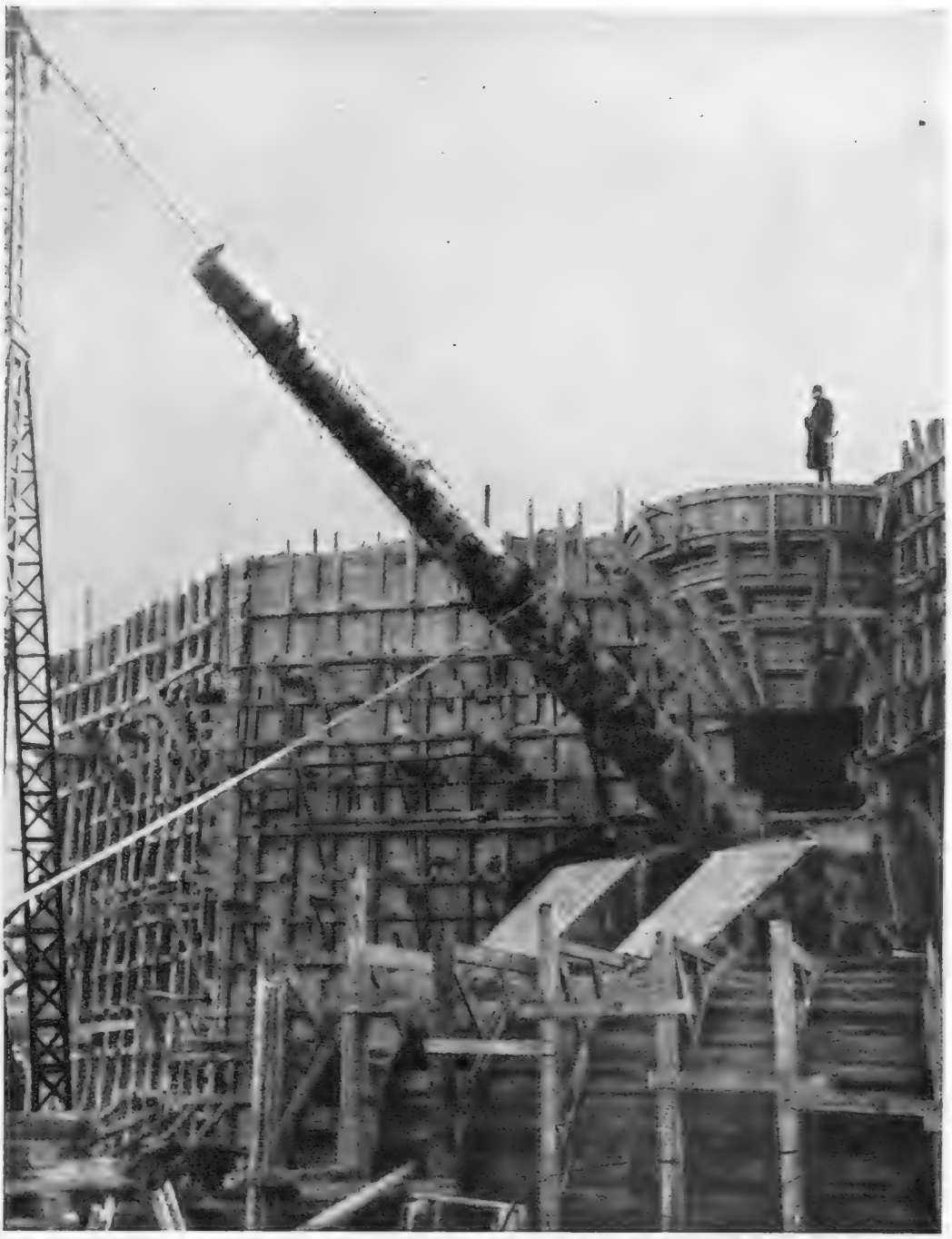
—On the French Coast, on the Island of Crete And on the Russian Front

NEW GERMAN A.-A. COASTAL BATTERIES. This strange object, resembling a mine, is one of the new-type heavy-flak positions now being erected along the German-held coastline

A CAMOUFLAGED GUN POSITION ON THE ISLAND OF CRETE, where much nervousness has been apparent of late amongst the German invaders

THE NAZIS FORTIFY THE ISLAND OF CRETE: During their 20 months of occupation, the Germans have constantly been strengthening the defences of the island. Natives have been used as labour units to complete the steel-net defences on the ground, while an anti-aircraft gun near by keeps a look-out for Allied planes, so that the work may go on undisturbed

FROM THE RUSSIAN FRONT: "This is how the German machine-gun sentry sees No Man's Land while one of the periodical flash-shots brightly illuminates the scene and gives the soldier a chance to watch out for any Soviet attacks during the night. In the foreground is one of the many cracked Soviet tanks which make a surprise attack easy"—*German description*



THE TREMENDOUS GUN EMPLACEMENTS WHICH THE NAZIS ARE NOW ERECTING ON THE CHANNEL COAST

This remarkable picture, from a German source, shows the size and strength of the fortifications which we will have to overcome when we invade the enemy coast. The big gun in the picture has already been camouflaged before being engineered into position in the centre of an enormous cliff-like concrete emplacement. The soldier standing at the top gives a key to the size of the vast position. The Germans say that a strong line of these fortresses have been, or are being, built to prevent a British landing. There is undoubtedly great nervousness on the part of the Germans as to when and where our Invasion blow will fall, and from many points has come news of feverish defensive activity by the Nazi garrisons and by the forced labour under their direction. A similar state of activity has also been observed along the southern French coast

THEIR DAY BEGINS WHEN NIGHT COMES: The German description of this picture runs as follows: "German supply carriers somewhere at the Soviet front. At night they come from their dugouts to meet the supply sledge a few hundred metres behind the trenches. Carrying the canteen bottles and pots of their comrades, they struggle their way back and forth, through snow and ice, to bring back warm meals, ammunition and lumber. At left and at right are some of the blown-up Soviet tanks which serve now as cover as well as identification marks"

BRITAIN'S DOGS AT WAR

What Has Happened to Our Three-and-a-Half Million Dog Population Since the Early Days of September 1939

Described by CHARLES GRAVES

THE dog population of Great Britain was 3,500,000 in 1939. To-day it is about 2,250,000. There are two reasons for this noticeable drop. Rumours were spread that dogs on the Continent went mad under aerial bombardment and rushed around biting people. As a matter of fact, experience in this country has shown that an air raid is no more than a very heavy thunderstorm to dogs. They cannot tell the difference between a peal of thunder and the dropping of a bomb, nor the difference between lightning and an explosion. But in consequence of these stories about mad dogs, thousands of people had their pets put away. A further reason for this action was the scare about gas. I can recall seeing, just after Munich, an ingenious anti-gas device for dogs. It consisted of a special kennel with a movable floor which the dog was supposed to operate by means of a bellows to change the air. The whole stock was sold at a nice price to dog-owners.

Another reason for the drop in the dog population is that the Kennel Club, mindful of the experiences of the last war, asked exhibitors to refrain from breeding except for the purpose of keeping alive essential strains. Most responsible breeders followed this request, and the numbers of pedigree dogs bred since 1939 have been much fewer than in ordinary times.

GRUNDY OF THE BLACK WATCH: A black-eyed bull-terrier, taken over when his former regiment left the Rock of Gibraltar

The policy of the Kennel Club has been patriotic. They consider that it is in the interests of the country that the number of dogs should be restricted without actual destruction. This policy could not possibly be contemplated by Parliament because of the great outcry among dog-lovers which it would entail. But one can take for granted that the Government appreciates fully the attachment people have for their pets, and also that they recognise the usefulness of dogs in serving as guards and companions for lonely women whose husbands are in the Forces.

The authorities, too, at last decided to use dogs in connection with the Army. This was long after the usefulness of dogs for military purposes had been appreciated by foreign governments. The German side of the Swiss frontier, for example, has been protected for a long time by German police dogs, which have been specially trained to run back to their headquarters instead of biting or worrying any suspicious person they see. The military kennelman promptly looks at the dog's collar and sees that he is, for example, Dog. No. 6 of Area Y, and a party of men go off immediately and surround the locality from which the Alsatian had come. This kind of canine alarm clock must be hard to beat.

When I was out in front of the Maginot Line as a war correspondent in April 1940, I was told by officers of the 51st Division, who were then holding the front line, that of the various types of German patrols, the most efficient was that of the Jaeger with his Alsatian specially trained to warn him of the proximity of the enemy. It may be recalled that one of the first casualties we inflicted on the Germans on this front was on a German patrol dog. It sounded unsporting, but it was very necessary.

The French troops had a simpler method of dealing with these war dogs. They brought up Alsatian bitches to the front line and duly lured many of the "enemy" from their military duties.

The Japanese, too, have been using dogs in considerable numbers in their jungle warfare. The American authorities could not understand why the Japanese, who are not a dog-loving race, bought as many champion dogs of the larger types as possible during the three years before Pearl Harbour.

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this publication should not be taken as an indication that they are necessarily available for export

Since the War Dog Training School was set up in this country by the War Office, the other services have made a demand for guard dogs, and several other schools have been established.

Alsatians are used by us for patrol work, not because they are cleverer than other breeds; but gun dogs are likely to be diverted from their work by the scent of game and other entrancing matters. Airedales are considered too soft. And yet, when the Germans recruited 15,000 dogs in 1941 for military duties, the highest number of acceptances were Airedales, followed by Boxers and Dobermann Pinschers. Possibly, however, the reason for this is that all the Alsatians had already been called up.

To-day, the War Dog Training School is glad to have large dogs of suitable temperament and intelligence; and anybody possessing one which seems to be suitable and is not gun-shy could get in touch with the School through the Kennel Club at 84, Piccadilly, London, W.1. The dogs are well cared for by expert handlers, and will be returned on the cessation of hostilities.

For liaison work it is found that the small Border collie and the nondescript collie used in sheepdog trials are the best. Lurchers are also excellent for

DOGS ARE POPULAR WITH THE R.A.F.! An "off-duty" stroll at a Bomber Station, when the menagerie must accompany their masters!

Army work, but there are not many of them. Until recently, the problem of feeding dogs has not been anything like as difficult as many owners had expected at the outbreak of war. There has been plenty of horseflesh in most places, though supplies have failed on occasion. It is true, too, that the allocation of flour for dog biscuits is only one-third of the pre-war supply. Dogs, however, are coarse feeders, and the plainer their food the better. The shortage of sweets and chocolates is very fortunate for them, as also is the reduction in motor-car driving. Like their owners, they are much healthier for it. They no longer over-eat, nor are given fancy foods.

The Kennel Club stopped all important dog shows at the outbreak of war, realising that their continued existence would affect transport and the unnecessary use of vehicles. But with the approval of the authorities, week-end dog shows have continued. These are restricted to a radius of 25 miles, and provide healthy recreation for war workers. The dogs are only at the shows for a few hours and are not fed on the spot, so that food resources are not affected; and, judging by their support, they are immensely appreciated. The effect of these week-end shows is correlated to the high money made by war workers, many of whom are buying pedigree dogs with the idea of continuing after the war. (They are the type of person who kept canaries or cats and mice in peacetime.)

The last war increased the popularity of dogs out of all proportion, and after 1920, entries at dog shows trebled themselves. The same can be confidently expected after this war. Army officers and others who have served in this war all over the world will want to settle down peacefully somewhere and try to make a living out of dog breeding.

It was the influx of Servicemen into the dog-breeding industry which caused Alsatians to become the most popular breed just after the last war. Recently, the registrations at the Kennel Club have jumped remarkably. They also show the present popularity of different types of dog. Here are the figures: 519 cocker spaniels, 213 wire-haired terriers, 168 Scottish terriers, and 167 Alsatians were registered in January. Personally, I would have thought that dachshunds would have been among the four most popular breeds. They have been increasing in popularity for the last fifteen years, and particularly during the war. For, thanks to Major Croxton-Smith, the chairman of the Kennel Club, there is not the same silly prejudice about them as there was between 1914 and 1919. As Major Croxton-Smith says himself, the dachshunds are entitled to the full benefits of naturalisation. The British were the first to "show" them, and the English Dachshund Club was started before a similar organisation in Germany. It was only after the British had taken an interest in them that the Germans made them the national dog. From personal experience, I know that the Leighs and the Grosvenors have had dachshunds for at least two generations; and in the dog cemetery at Stoneleigh Abbey there are any number of impressive grave-stones of dachshunds dating back to the last century.

Some of the advertisements in the weekly journals devoted to dogs read amusingly to the amateur. It is a real escape from war to read something like this: "Chow at stud, highest breeding; our motto, money returned if not satisfied. What more do you want? ... Remember, if it is good high-class black you want you cannot afford to miss a puppy from Souzi; she is having winners every litter, and real champions which, when shown, cause some excitement and win silver cups the first time out... The better black bitch has to be whelped yet by Amoury of Winchow and Wupie Thirza; puppies expected soon. Wupie Thirza has done well in the show ring; a real classy bitch, dark red; Amoury is home-bred, a real first-class bitch, much admired at my kennels by all visitors. . . ."

It is sad to think that foxhounds have been almost decimated because of the war. The Waterloo Cup has been allowed to continue, however, by the National Coursing Club—to give breeders the chance of ascertaining which dogs would be the best for stud purposes in the immediate future. Greyhound meetings have been cut to the bone, but continue to flourish. They certainly provide a desirable relaxation for war workers and men on leave from the Services. Now, in addition to providing relaxation and doing real war work of the most practical kind, dogs are going to assist in the war effort by raising money for the Red Cross Agriculture Fund. The Kennel Club is organising a series of comic dog shows and parades for this purpose.

But what about the dogs on the Continent? There was a rumour two years ago that all those over a certain size in the Reich were to be destroyed. In fact, the Germans made considerable propaganda use of this for two purposes: (1) to persuade us to destroy our pedigree dogs so that they could control the markets of the world after the war; (2) to make us think that they were really short of food. As a matter of fact, numbers of dog shows have been held all over Germany during the past eighteen months. As for the dogs in the occupied countries, it is a tragic story. In France, for example, many thousands have been put down, and those that are kept can only survive under the greatest difficulties. Powdered acorns and dried figs are some of the unnatural foods on which their desperate owners have to rely. . . .

A SEALYHAM which began life as Jeremy, but which his new master of the R.A.F. has libellously rechristened "Dopey"

The Shaftesbury Homes and "Arethusa" Training Ship

This 100-year-old Society needs new supporters to fill the places of those who, called to Higher Service, can no longer send financial help. Will you become a subscriber, and give your gift through the Covenant Scheme, which means even greater help? Full particulars from the Secretary, 164, Shaftesbury Avenue, London, W.C.2.

GIVEN TO THE NATION

THE WEST COUNTRY ESTATES PRESENTED TO THE NATIONAL TRUST BY SIR RICHARD ACLAND : A beautiful corner of Selworthy, the unspoilt village on the Holnicote Estate, which goes down to the sea north of Porlock. In all, the Trust has acquired the freehold of over 17,000 acres

AN OLD COTTAGE AND THE LARGEST WALNUT-TREE at Bossington, another village on the Holnicote Estate

Sir Richard Acland, wealthy landowner and Independent Member of Parliament for Barnstaple, has just gifted his two great estates of Killerton and Holnicote to the nation. These amount to over 16,000 acres of some of the finest woodland, moor and agricultural land in Devon and Somerset, and have a value estimated to be over £250,000. It is the biggest single gift in the history of the National Trust. It saves from spoliation a wonderful region known to all visitors in search of the beautiful. This acquisition makes the Trust one of the biggest farmland owners in the country. Sir Richard's family will live at his smaller house of Sprydon until the war is over; then all three houses on the two estates will be devoted to the public use

PART OF THE GREAT ESTATES IN DEVON AND SOMERSET JUST HANDED OVER TO THE NATION BY SIR RICHARD ACLAND, M.P. A view of the Killerton Estate, showing a stretch looking across to Paradise Plantation, with the River Culm on the left. This estate consists of some 4,500 acres of farmland and 1,500 acres of forest; it lies about seven miles to the north-east of Exeter

A NEW NATIONAL TRUST ACQUISITION IN THE PEAK DISTRICT : It was announced a few days ago that the National Trust had acquired by purchase Fullwood Holmes Farm, of 78 acres, in Edale, Yorkshire, and had taken over the covenants of the adjacent Townhead Farm of 57½ acres. These farms are adjacent to Harrop Farm, of 84 acres, which was acquired by the Trust in 1938. As the Trust holdings at the head of the Edale Valley have been increased since the war by over 400 acres, this beautiful approach to the Peak, especially dear to walkers from Manchester and Sheffield, is now being well protected. The above picture shows the view towards the new Trust acquisitions; in the distance are Hope Brink and Thornhill Brink

A GREAT BEQUEST TO THE CAMBRIDGE BOTANIC GARDEN : Mr. Reginald Cory, who died in 1934, bequeathed the sum of £9,000 a year, rising to £13,000, to this Garden, which was first opened in 1846, and which has made a number of valuable contributions to the science of Botany. The Garden has now received a considerable sum from Mr. Cory's estate, which makes it the largest bequest in the University's history

The World of Books—By Vernon Fane

FICTION FOR EVERY MOOD

How to Enjoy the Victorians; Charles Graves's "Seven Pilots"; A "Whodunit" with Humour; Vicki Baum Can Write!; "Bye, Bye, Blackshirt!" Eric Knight's "Sam Small Flies Again"; Bucolics and Evacuees

MR. HENRY WILLIAM POLDEROY, whose diary is featured in **POLDEROY'S PAPERS** (Michael Joseph. 10s. 6d.), is described in the blurb as "an eccentric gentleman, but by no means a fool."

Mr. C. E. Vulliamy, who presents this full-length portrait, reveals him to be no more eccentric than any other country gentleman living in the mid-nineteenth century and about as big a fool as any of his contemporaries of that period.

His type, which was well represented in every corner of the British Isles, could, and did, get vastly excited about things like "Women's Work and Women's Culture," the Damnatory Clauses of the Athanasian Creed, basket burial, spiritualism, Darwin's "Descent of Man," and the relative merits of Gustav Doré and Holman Hunt, but preferred to remain deaf and blind to the social evils upon which their comfortable living depended.

Polderoy might be accounted no fool because he could temper his admonition of the thunderings of Bright and Cobden with a certain amount of distrust of Disraeli's flamboyant Imperialism. He was also a bit of an inventor—not having anything else to do—and was for ever fiddling with a water-clock and with a series of artificial waterways in his own gardens, through which he succeeded in flooding his kitchens. He also spent some years in making a model of Lincoln Cathedral out of fish bones and cork. His wife, who was young, pretty and vivacious, was able to anticipate that form of emancipation which he roundly condemned by running off with someone more congenial—for such persons existed, even in those days.

THE BISHOP ON POINT DUTY—The Rt. Rev. Benjamin Pollard, Bishop Suffragan of Lancaster, does not look very episcopal here. He is directing traffic in one of Lancaster's principal streets as a member of the Home Guard. Recently he has had to deal not only with the normal flow of civilian traffic, but also with a large number of military vehicles. The Bishop is fifty-two years of age

This book is obviously the result of considerable research and observation. After all, our grandfathers are not that far distant, although for some of us they are great-grandfathers. We have passed none too easily through the period in which they could be guyed in terms of Landseer, G. F. Watts and Dean Farrar, and for all the clutter of plush and stuffed flowers, heavy food, heavier port, and even heavier morals, they are now getting into historical focus.

In **SEVEN PILOTS** (Hutchinson. 8s. 6d.) Mr. Charles Graves publishes the third volume of his three-decker novel about the Royal Air Force. Jock Riddell, Tommy Halton, Ginger Pleasanton, Kit Crokart, and the rest, came to life in "The Thin Blue Line" and took some hand in the Battle of Britain. In "The Avengers" they reappeared as seasoned pilots, and their story was taken up to the date of the escape of the *Scharnhorst* and *Gneisenau* through the Channel.

In *Seven Pilots* they all reappear again and their activities cover almost every branch of the R.A.F.'s activities from Flying Fortresses to Coastal Command, from "intruder" operations to round-the-clock bombing, and from long-distance Italian parties to night-fighting Beaufighters.

Mr. Graves takes each individual character through his operational experience with the accuracy and with almost the detail of a combat report. At the risk of being accused of "shooting a line," almost any one of these chaps would say that each one of his jobs was a piece of cake, but, with the development of aerial warfare, seasoned as they are by practical experience, none of them would be able to deny that his share of operational flying was in any way less exciting or exacting than in the summer of 1940.

We are very glad to see Kit Crokart on the tarmac again, even though his reappearance is summed up in the line "on return to England." These are valuable books, for they are a cross-section not only of the real thing, but of the complete thing.

TINSLEY'S BONES (Gollancz. 8s. 6d.) is that rare and, to me, welcome thing—a detective novel with an admirable plot, a judicious number of "creeps" and a great deal of humour which springs as much from situations as from dialogue.

Mr. Percival Wilde's characters speak, it is true, not only in the American, but in the New England idiom, but that is no bar to one's entertainment, since it is at least as easy to understand as the speech of a dyed-in-the-wool Yorkshireman; and his characterisation is excellent.

A village inquest on a writer who has apparently been burned to death in his remote house is the scope of the story, and that scope is quite extensive enough to provide Mr. Wilde with a fantastically varied cast, half-a-dozen sub-plots, and every type from an effeminate hairdresser to a tobacco-chewing coroner who spins out the proceedings because he is paid on a *pro rata* basis.

There are those, of course, who do not care for detective fiction, and they are unlikely to have read further than the first two words of this paragraph. But to the considerable number who find enjoyment and distraction in a really good "whodunit," I recommend this book unreservedly.

How Miss Vicki Baum can write! One might almost add, how *much* Miss Baum can write, since each of her novels would provide a less robust novelist with material for at least three books. **MARION ALIVE** (Joseph. 10s. 6d.) is no exception to this rule of profusion. It is a vast novel of 450 closely printed pages, and it covers the period of 1900 to 1939, as seen through the eyes of a woman who was more cosmopolitan than Viennese.

Vienna in the old days of lilacs and chestnut-trees and music, and Vienna during the revolution, when a barrowful of frozen, foul-smelling cabbage was a great prize to the housewife; these are only two of the aspects of a book that is almost too varied to be absorbed at a single reading.

Marion herself, though, is a vital enough creation, even after one has read only the first few chapters. A creature with such a zest for life, for people, for work and for love. Her career is as unpredictable as a helter-skelter, and just about as calm. Whether in Vienna, or the North Prussia she loathed, or in America, or in the Switzerland where the book leaves her, apparently lost down an ice crevasse, there is never anything dull about Marion.

From a technical point of view, she is a very good piece of work, and had she a living counterpart, she would be a vital, amusing and courageous woman. But I cannot believe that this book would not have been the better for a blue pencil, wielded "with firmness and kindness."

Miss Inez Holden's little book of sketches of English life hops along, a little disjointedly, through the period of 1938-1941 and provides a sporadic kind of journal for those years. The writer is present herself throughout the book, but only in the role of observer and reporter.

IT WAS DIFFERENT AT THE TIME (Bodley Head. 4s. 6d.) has as its intention to show the change in values from pre-war England, overshadowed by many international crises, to the values of a country whole-heartedly engaged in total war. Hospitals, training centres, political meetings ("Bye, Bye, Blackshirt!"), civil defence posts and country-house parties are all there, and the author's reactions to them all are as original and as provocative as ever.

Miss Holden has a tendency to portray pre-war life as entirely neurotic and egotistical, but her biases at least are vividly expressed

The last collection of Sam Small stories—the mythical Yorkshireman who learned to fly by faith, and saw nothing odd about that—is probably the best of them all, and it is sad to think that it is indeed the last, since Major Eric Knight was killed not long ago in an aeroplane accident.

SAM SMALL FLIES AGAIN (Cassell. 8s. 6d.) takes the reader ten steps further in the amazing adventures of this little man, "getting on for old," who settled all the knotty problems that ever came up for discussion in the Spread Eagle Tavern at Polkingthorpe Brig. Sam has a number of magical powers, but seldom the stigma of whimsy. It is nothing to him, for instance, to change a little girl into a dog or to forestall a Nazi invasion of England, but perhaps his greatest feat, and certainly the most amusing story in this volume, is his interpretation of that foreign phrase, *droit de seigneur*.

MR. S. F. A. COLES, author of "Cities of Troy." This volume, published at 5s. by Lund Humphries and Co., consists of poems of travel. There is a foreword by Dr. Venn, Vice-Chancellor of Cambridge University, and a most excellent and descriptive preface by the author. Five hundred copies of these poems were sold before review. The first copy, specially bound, was accepted by the King of the Hellenes; the second by the Duchess of Kent. Their Majesties the King and Queen have also consented to receive a copy

SAVE ALL YOUR PAPER WASTE FOR SALVAGE

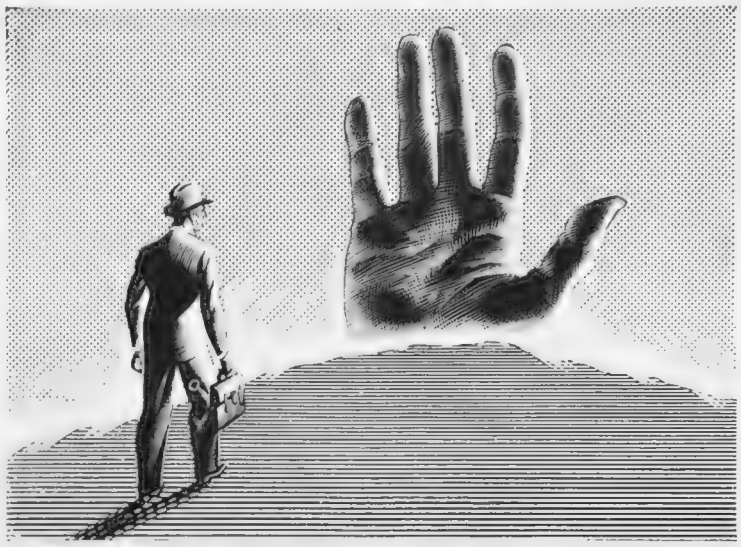
Major Knight claims that to be born in print may be a story's death. "Telling them, in the old Yorkshire way, by word of mouth, made them live much longer," he writes, but I would like to wager that these stories will live for many a day, or until a breed exists to whom Yorkshire humour is meaningless.

DING DONG DELL (Chapman and Hall. 8s. 6d.) evidently takes its title from the pussy in the story who was pushed down a well. That the pussy was an over-sexed evacuee child of fifteen and that the answer to who put her in was a large, bucolic man called Dan Bradbourne, has nothing more to do with the plot than an occasional murder has to do with the social conditions of rural England.

Miss Joan Morgan's story is really about Hubert Manville, whose family dominated some broad English acres since his ancestor acquired them by violence in feudal times. Naturally he displays all the stiff-upper-lip qualities of his breed in the face of such upsetting phenomena as slum evacuees and insolent farmer tenants.

Providence and novelists have a way of tidying up such divergences from the established order of things. The disgruntled yeoman paid the inevitable penalty for dumping the little Cockney into the well. The farmer's wife thereupon takes tea with the squire. "That 's why it 's right," she says, "that Marshall should bring in silver tea-things, something that hasn't been melted down yet. It 's right—you mustn't let everything be melted down. You, your class, you 've still got some power. Don't reduce everything to scrap and rubble and pig-iron and pit-props. Keep a grip on things that matter!"

To which he replies, "holding her fever-bright eyes with an answering light," that he is shortly going to plant beech and ash and elm and oak. One can only hope that in his spare time he will take a glance at the Beveridge Report.



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P.15

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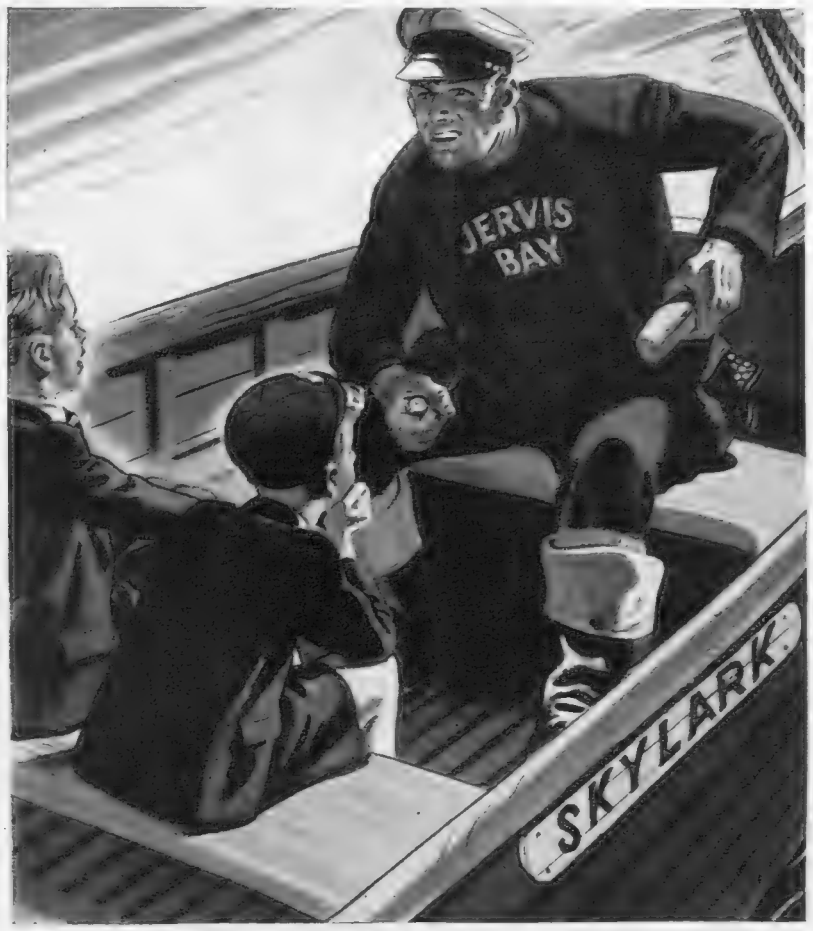

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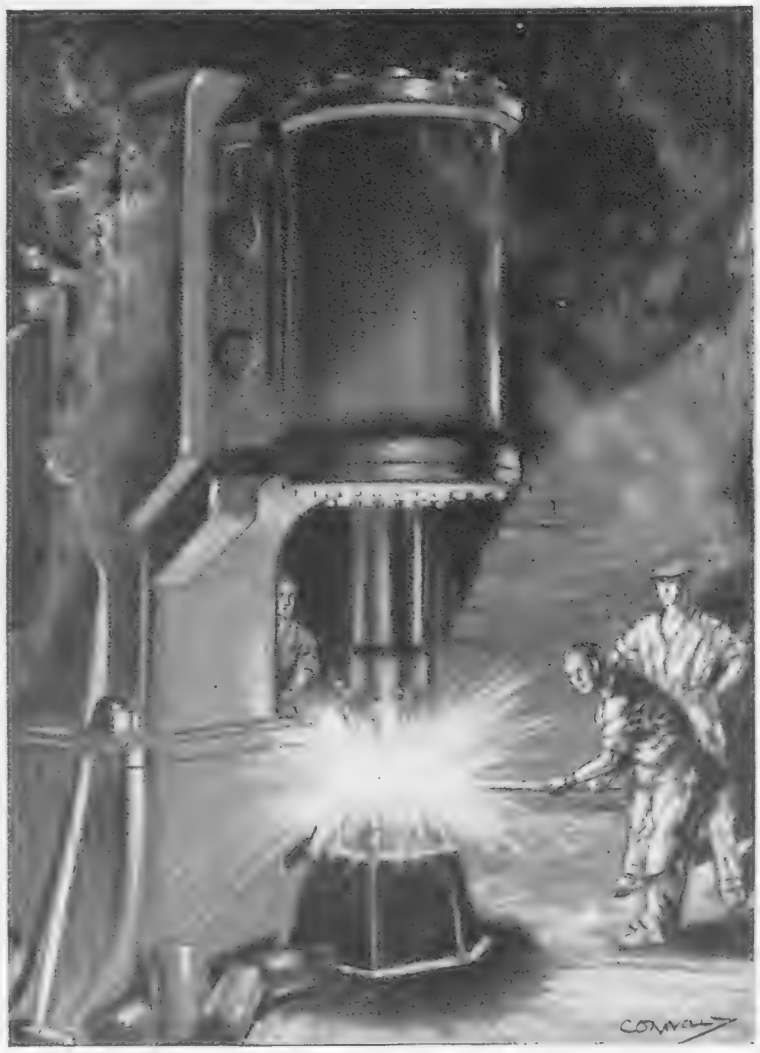

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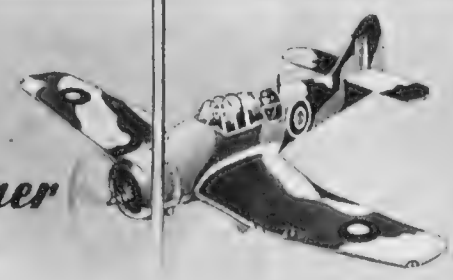

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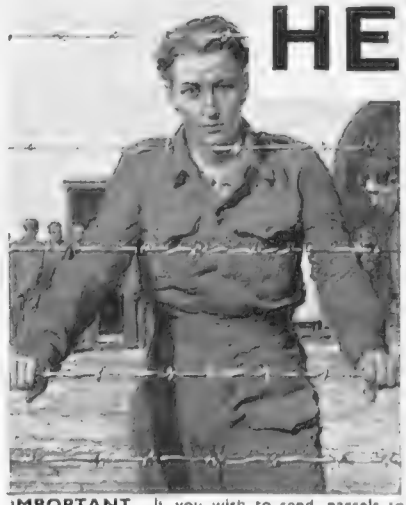

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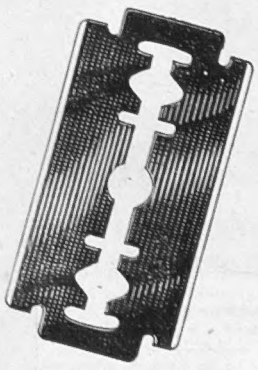

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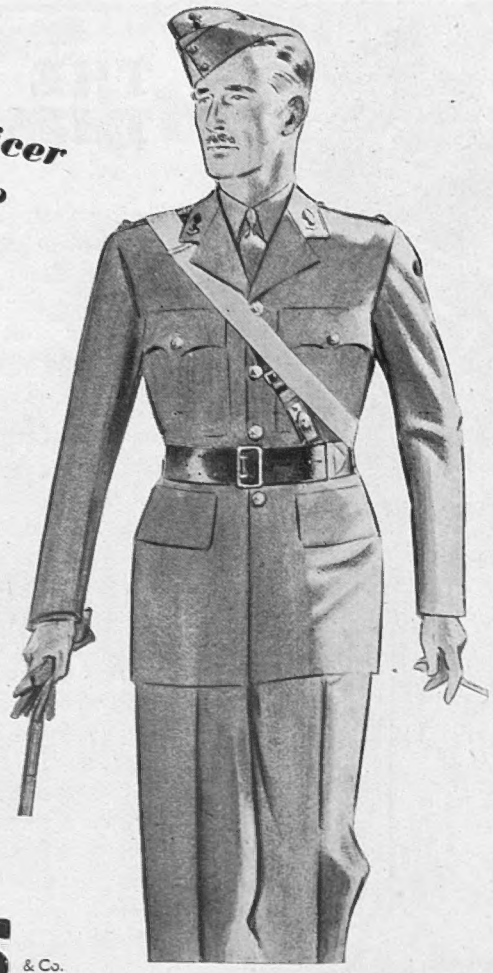

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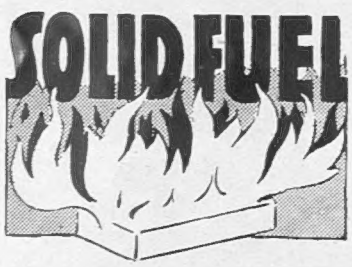

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SCOTLAND'S HARDEST WEARING CLOTH. ASK YOUR TAILOR

S.S

OLD BOOKS HELP TO MAKE BOMBS AND SHELLS—BUNDLE THEM OUT NOW—PLEASE! THE NEED IS URGENT.

Good work ... GOOD WHISKY

JOHNNIE WALKER

Born 1820—still going strong

PRINTED IN ENGLAND by THE ILLUSTRATED LONDON NEWS AND SKETCH, LTD., Milford Lane, London, W.C.2, and Published Weekly by ILLUSTRATED NEWSPAPERS, LTD., Commonwealth House, 1, New Oxford Street, London, W.C.1. SATURDAY, MARCH 13, 1943. Entered as Second-Class Matter at the New York (N.Y.) Post Office, 1903.